

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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WITH SUPPLEMENT. PRICE SIXPENCE. PER ANNUM, BY POST, 21s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
Established 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Miscellaneous Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.

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Accounts opened for the Fortnightly Settlement.

Monthly and Daily Price Lists issued.

Bankers: City Bank, London; South Cornwall Bank, St. Austell.

SPecIAL BUSINESS in the following, or part:—15 Ashton, 30s.; 20 Bampfylde, 18s.; 5 Bilsom, 50 Bog, 9s. 6d.; 50 Chapel House, £3 17s. 6d.; 15 Cedar Creek, 21s.; 15 Cardiff and Swansea; 30 Emma, £1 16s. 3d.; 20 Flagstaff, £1 1s. 6d.; 50 Frontin, 14s.; 100 Javali, 9s.; 25 Lawes Chemical; 3 Nant-y-Glo, £44 15s.; 30 Old Trebreyd, 4s. 9d.; 10 Pateley Bridge, £7 5s.; 100 Parys Mountain, 13s. 6d.; 100 Positive Assurance, 13s.; 35 Plymlimmon, 8s. 6d.; 80 Rookhope, 3s. 9d.; 25 St. Patrick, 22s. 6d.; 25 Sweetland, £3 1s. 3d.; 15 Tankerville, £10 17s. 6d.; 20 Thorp's Gawber, £10 15s.; 40 United Bituminous, 5s. 6d.; 10 West Chiverton, £16 15s.

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Purchases and Sales negotiated in Unmarketable Stocks and Shares. Speculative Accounts opened for the Fortnightly Settlement.

References given and required when necessary.

A Stock and Share List forwarded to bona fide Investors free on application.

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W. H. B. has SPECIAL BUSINESS in the undermentioned:—

20 Ashton, 25s. 100 East Grenville. 10 Sweetland Creek, £12 19s.
20 Birdseye Creek, 38s. 30 Flagstaff, £1 19s. 6d. 100 So. Aurora, 10s.
10 Blue Tent, £2 1/2. 75 Frontin, 15s. 6d. 15 South Condurrow, 4 1/2.
50 Bampfylde, 100 Gold, 4s. 6d. 150 St. Patrick, £1 1/2.
40 Bog, 9s. 6d. 60 Gold Run, 18s. 5 Tankerville, £10 15s.
10 Bilsom & Crump, 50 Javali, 10s. 2 Tincroft, £18 1/2.
50 Cathedral, 27s. 6d. 20 Ladywell, £3 12s. 50 Tecoma, 14s.
75 Cedar Creek, 19s. 6d. 30 Last Chance, £1 6s. 6d. 30 United Mexican.
20 Cape Brea, £35 1/2. 25 Marke Valley, 40s. 6d. 5 Van, £24 1/2.
25 Cardiff and Swansea, 50 Malabar, 13s. 40 Van Consols, 21s. 6d.
5 Cape Copper, 34 1/2. 50 Maipaso, 13s. 6d. 20 West Godolphin, 12s. 6d.
20 Chicago (Silver), 25 New Quebrada, £3 16 3/4. 20 West Godolphin, 12s. 6d.
50 Chontales, 13s. 100 Old Trebreyd, 5s. 6d. 20 West Godolphin, 12s. 6d.
40 Chapel House, £3 1/2. 30 Pateley Bridge (Lead). 20 West Godolphin, 12s. 6d.
20 Devon Con., £2 16s. 20 Parys Mount, 13s. 30 Wh. Kitty (St. Agnes), £2 1/2.
50 Don Pedro, 13s. 6d. 100 Port Phillip, 13s. 6d. 20 Wh. Kitty (St. Agnes), 1 1/2.
3 Dolcoath, £39 1/2. 35 Penstruthal, 10s. 30 Wh. P. Milw., 7s.
50 Emma (Silver), 8s. 20 Sweetland Creek, £18 19s.
25 East Van, 32s. 25 Plynlimmon, 10s. 6d. 20 West Esgair Lle.
15 Eberhardt, £8 13s. 9d. 100 Rookhope, 6s. 15 Wheal Jane.
10 East Lovell, £8 1/2. 20 Ladywell, £3 6s. 25 Wheal Uny.
40 East Caradon, 26s. 6d. 25 Rhenish, £1 16s. 9d.

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60 Almada, 16s. 3d. 100 Frontin, 10 Roman Grav., £12 1/2.
40 Bog, 9s. 6d. 50 Flagstaff, £2. 15 Richmond, £1 1/2.
70 Birdseye, £1 16s. 40 Gold Run, 6s. 70 St. Patrick, £1 2s. 6d.
40 Chapel House, £23 1/2s. 50 Hington, £1 7s. 6d. 30 Sweetland Cr., £2 19s.
60 Cedar Creek, 19s. 75 Javali, 10s. 3d. 20 Condurrow, £4 19s.
75 Chontales, 13s. 50 Ladywell, £3 6s. 3d. 15 Tankerville, £10 15s.
30 Don Pedro, 14s. 30 Marke Valley, £2. 5 Van £24.
20 Eberhardt, £8 13s. 9d. 20 New Rosario, 7s. 6d. 25 Wheal Uny.
40 East Lovell, £8 1/2. 20 Parys Mountain, 13s. 6d. 20 West Godolphin, 12s. 6d.
40 Pennerley, £1 15s. 20 Plynlimmon, 8s. 6d. 20 Wedgwood (ot wtd.)

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J. M. and Co. advise respecting the Sale and Purchase of all classes of Security, and Investors should communicate with them before buying.

J. M. and Co. have great pleasure in pointing their clients to the steady and continuous improvement made in the North Prince Patrick Mine, which is evident from the reports published weekly in the columns of this Journal. From this point the shares may be expected to have as great a rise as the South Prince Patrick. J. M. and Co. are always able to deal in these shares.

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MESSRS. HARLAND AND CO., STOCK AND SHARE DEALERS, 235 and 236, GRESHAM HOUSE, LONDON, E.C.
Bankers: London and County Bank.

Messrs. H. and Co. wish to direct attention to the DIVIDENDS declared by CHAPEL HOUSE and ALLAMI COLLIERIES, and will be happy to supply shares in these companies at market rates.

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30 Bampfylde, 20s. 40 Monydd Gorddu, 6s 9 15 Roman Grav., £12 1/2.
50 Cathedral, 28s. 50 North Prince Patrick, 22s. 6d.
25 Chapel House, 80 Old Trebreyd, 4s. 6d. 50 Tincroft, 19s. 6d.
20 Fir Tree House Col., £25 40 Pateley Bridge, 20 Van Consols, 21s. 6d.
50 Glaistone, 21s. 50 Penstruthal, 10s. 25 Wheal Crebor, £2 1/2.
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Established 1857.

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| Buyers. Sellers. | Buyers. Sellers. |
|-----------------------------------|--------------------------------------|
| Birdseye Creek, £15 1/2. 27s. 6d. | Penstruthal, 9s. 11s. |
| Bog, 9s. 6d. | Plynlimmon, 8s. 9s. |
| Carn Brea, 36 | Port Phillip, 11s. 3d. 12s. 6d. |
| Chontales, 12s. | Prince of Wales, 4s. 5s. |
| Devon Great Consols, 27s. | Richmond, £13 1/2. £14 |
| Dolcoath, 35 | Roman Gravels, 12s. 12 1/2 |
| Don Pedro, 12s. | St. Patrick, 11s. 12s. |
| Eberhardt, 82s. | South Carn Brea, 11s. 12s. |
| East Caradon, 1 | South Condurrow, 4d. 5s. |
| East Van, 13s. | South Sweetland Creek, 15s. 17s. 6d. |
| Flagstaff, 27s. | Tankerville, 10s. 10 1/2 |
| Gawber, 11s. | Tincroft, 17s. 18 1/2 |
| Gold, 4s. | Van Consols, 21s. 22s. |
| Hinton Down, 9s. | West Chiverton, 17s. 18s. |
| Javali, 9s. | West Godolphin, 12s. 13s. 6d. |
| Ladywell, 32s. | West Esgair Lle, 16s. 17s. 6d. |
| Marke Valley, 32s. | West Godolphin, 12s. 13s. 6d. |
| New Quebrada, 3 1/2s. | West Wheal Crebor, 2 |
| New Rosario, 7s. | Wheat Jane, 3 |
| Parys Mountain, 12s. | Wheat Jane, 3 |
| Pennerley, 1 1/2s. | Wheal Kitty (St. Agnes), 2 1/2 |

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ACCOUNTS AUDITED, LIQUIDATIONS CONDUCTED,
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can sell the following SHARES, at prices annexed:—
30 Ashton, 28s. 9d. 20 Ladywell, £3 10s.
20 Birdseye, £1 18s. 40 Marke Valley, 38s.
50 Bog, 9s. 9d. 45 Monydd Gorddu, £6 1/2.
50 Plynlimmon, 9s. 20 South Colerne, 6s.
20 Clee Hill, 6s. 20 New Quebrada, £3 10s.
20 Chapel House, £3 1/2s. 50 St. Patrick, 22s.
50 Cathedral, 26s. 3d. 20 So. Carn Brea, £1 1/2.
25 Emma, £1 1/2s. 50 Parys Mount, 12s. 3d.
10 Eberhardt, £8 1/2s. 50 Port Phillip, 13s.
20 Flagstaff, £1 1/2s. 50 Prince of Wales, 4d.
50 Glaistone, 20s. 25 Pennerley, £1 15s.
15 East Lovell, 25s. 50 Penstruthal, 8s. 6d.
20 Pateley Bridge, £2 1/2s. 50 Tincroft, 17s. 6d.
50 Plynlimmon, 9s. 20 Richmond, £1 1/2s.
50 Gunnislake (Clit.) 32s. 6d. 50 Richards & Co. £4 1/2s.
70 Plynlimmon, 8s. 6d. 100 West Milw., 7s.
100 Rookhope Valley, 4s. 9d. 10 Wedgwood (ot wtd.)

M R. W. TREGELLAS, 122, BISHOPSGATE STREET
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Government and every negotiable Stocks dealt in for cash or account. Orders and telegrams punctually attended to.

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STOCK AND SHARE BROKERS,
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PLANET SILVER MINING CO. (Limited).

Mineral Properties Inspected.

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THE ART OF EXTRACTING METALS FROM THEIR ORES.

By J. ARTHUR PHILLIPS, C.E., F.G.S., &c.

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* Possesses intrinsic merits of the highest degree. * * * * * In our opinion the best work ever written on the subject with a view to its practical treatment."—Westminster Review.

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BART., M.P.

The Report for 1874, copies of which with the statements of account can be obtained on application, shows that a sum equal to 40 per cent. of the premium income was added to the funds, while the general income was increased.

The directors continue to make advances to assurers in the office on liberal terms.

H. D. DAVENPORT, Secretary.

THE IRON INDUSTRIES OF SOUTH STAFFORDSHIRE AND WORCESTERSHIRE.

By RICHARD MEADE, Assistant Keeper of Mining Records,
Museum of Practical Geology.

The coal field in which these industries are located is one of the most important in central England, and differs from all others in the character of the or underlying rock, which is Upper Silurian (Wenlock limestone and shales), the millstone grit, or carboniferous limestone, on which the coal usually rests in other fields, being absent here. In other words, the old land surface on which the flora grew was an eroded surface of Upper Silurian rocks. It has been clearly shown by the late Prof. J. B. Jukes, in his memoir on the "South Staffordshire Coal Field," that whilst the same accumulations were going on in other parts of England, a broad tract of land, extending over Shropshire, Staffordshire, and Warwickshire, was dry land. Consequently the usually associated condition of other coal fields is here wanting; both the grits and limestones of the carboniferous series being absent, the well-marked isolated Silurian masses of Dudley, Sedgley, and Walsall, rising from beneath the coal measures, and on which they rest. This coal field extends from Rugeley, in the North, to the Clent Hills, in the south, a distance of 20 miles, embracing the important districts of Cannock Chase, Wolverhampton, Bilston, Dudley, Cornish, &c., and has an average width of from seven to eight miles, and is bordered by the Bunter Sandstone and Permian Rock, the former having a thickness of 1200 ft., the latter exceeding 2000 ft. The coal measures beneath are divided into upper and middle, the upper division consisting of red and mottled clays, red and grey sandstones, and gravel beds, and having a total thickness of 800 ft., but barren of coal seams. The middle measures, however, contain in a thickness of upwards of 500 ft. six important seams of coal, interstratified with numerous courses of ironstone; the general section of these measures is given as follows by the late Prof. Jukes, the thickness of the seams and strata being the average of many sections in the southern district of the coal field:—

| Upper Coal Measures:— | Feet. |
|--|-------|
| Red and mottled clays, red and grey sandstone, and gravel beds ... | 800 |
| Middle Coal Measures (1300 ft.):— | |
| 1.—Brooch coal | 4 |
| Strata, with ironstone | 130 |
| 2.—Thick coal | 30 |
| Strata, with Gubbin ironstone | 20 |
| 3.—Heathen coal | 4 |
| Strata, with ironstone | 109 |
| 4.—New mine coal | 8 |
| Strata, with ironstone | 16 |
| 5.—Fire-clay coal | 7 |
| Strata | 30 |
| 6.—Bottom coal | 12 |
| Strata, with several courses of ironstone | 140 |

The above six seams give a total thickness of 65 ft. of workable coal, the most important of which is the "Thick coal," 30 ft. or 10 yards thick, a source of great wealth to the district of Dudley; this celebrated seam is in the northern part of the coal basin near Essington and Pelsall, and represented by nine distinct seams, divided and separated by 40 ft. of sandstones and shales; each of these seams has its own underlays, roof, and fossil contents. An interesting feature in this coal field is the basaltic mass of Rowley Regis, forming a hill two miles in length, and 820 ft. in height. Prof. Jukes considers that this rock has been poured out in the form of a lava flow during the coal period, for the beds of coal dip under the basalt, and have been followed till found "blackened" or charred, and utterly worthless. With the foregoing brief sketch of this coal area, which stands prominently amongst our iron-making centres, a few facts and figures exhibiting the production and distribution of its coal will show its importance when considered in connection with its iron-making resources.

Taking the returns for the past ten years, as recorded by Her Majesty's Inspector of Coal Mines for South Staffordshire and Worcestershire, the production was as follows. Side by side is given, for comparison, the production of the collieries of Great Britain in the same years, also from Her Majesty's Inspectors' returns:—

| Year. | So. Staffordshire and Worcestershire. | Great Britain. |
|-------|---------------------------------------|-----------------|
| 1864 | Tons 10,208,000 | Tons 95,122,419 |
| 1865 | 10,201,500 | 98,911,169 |
| 1866 | 10,300,000 | 100,728,881 |
| 1867 | 10,285,000 | 105,077,743 |
| 1868 | 9,900,000 | 104,566,959 |
| 1869 | 10,408,000 | 108,003,482 |
| 1870 | 10,47,000 | 112,875,725 |
| 1871 | 10,500,000 | 117,439,251 |
| 1872 | 10,550,000 | 123,497,316 |
| 1873 | 11,100,000 | 128,544,400 |
| 1874 | 8,500,000 | 126,590,108 |

In comparing the production of South Staffordshire for the years 1873 and 1874, a falling off to the extent of 23 per cent. is observable; this is explained in the Inspector's report as due to a strike, which extended over a period of four months, and to the depressed condition of the iron trade in the last-named year. Again it should be stated that in the year 1874 and previous years the returns of production of this district include, as recorded in the Inspector's report, an allowance for waste, colliery consumption, colliers' allowance, and 16 per cent. for the difference between statutory weight and the customary weight of the district. Of the coal raised in this district in the year 1873, the following statement will show the quantities carried by railway and canal, and its distribution:—

| Distribution. | Quantity—Tons. |
|---|----------------|
| Carried out of county by London and North-Western Railway ... | 971,525 |
| Carried out of county by Midland Railway | 106,484 |
| Carried out of county by Great Western Railway | 487,635 |
| Carried out of county by canal | 535,590 |
| Carried by canal for Birmingham | 812,668 |
| Carried by canal for works in the mining districts | 3,500,223 |

IRONSTONE DEPOSITS.—The measures yielding ironstone exist abundantly in this coal field, with their associated beds of shale, in which fossils are found in great profusion. Prof. Jukes, in his introduction to Part II. of the "Iron Ores of Great Britain," and from which many of the facts contained herein have been drawn, gives the following as the beds, or sets of beds, containing workable ironstone. The "Brooch Binds" are beds of clay or shale beneath the Brooch coal, and containing ironstone to the south-west of Dudley, where the beds average about 7 ft. in thickness.—The "Pins and Pennyearth." These measures take their name from the form of the

nodules in which the ironstone occurs, the "pins" being small, round, or cylindrical nodules, and the "Pennyearth" small flattish nodules, like penny pieces. The "Ten-foot Stone" and "Backstone" measures, so called from lying immediately above or on the back of the "Thick Coal" in the neighbourhood of Brierly Hill.—The "Grains" or "Whitery." These are merely occasional ironstone measures, consisting of light and dark-coloured clunch, a term applied to coarse, tough clays of the coal measures; these measures are sometimes absent, and where they contain most ironstone, rarely exceed 6 or 8 ft. in thickness. The "Gubbin," sometimes called the Little or Thick Coal Gubbin, is one of the most important and widely diffused of the ironstone measures of this coal field, and yields an average of 1500 tons per acre, the total thickness of the measures varying from 2 to 9 ft. in different places.—The "New Mine Ironstone," or "Whitestone." This is another widely diffused ironstone; it is a light-coloured ironstone, occurring in large nodules, lying in a bed of "clunch;" the layers of nodules vary from 2 to 4 ft., and the whole measure from 2 to 10 ft. in thickness, the most usual being 4 or 5 ft., yielding an average of 1500 tons per acre. Prof. Jukes gives several interesting sections in which these measures occur, and from which the above average thicknesses are derived.—The "Pennystone Blue-stone," or "Cakes." The ironstone of these beds lies in a dark clunch or clay, the nodules being flat, round, and of a dark colour; in the district of Dudley, to the south-west, ironstone has rarely, if ever, been found on this horizon, or below it. The "Fire clay Balls" measure is variable and capricious, and the ironstone irregular in its occurrence, and in the form of balls, hence the name, and resting on the Fire-clay coal. Next, in descending order, comes a bed of fire-clay, varying from 2 to 10 ft. thick, below which the "Getting Rock" occurs, a measure sometimes containing ironstone worth working in certain localities.—The "Poor Robin." This measure is sometimes 3 or 4 ft. thick, and the ironstone is more widely diffused and persistent in its occurrence than in the Getting rock.—The "Rough Hills Whitestone." This ironstone is confined to the district between Bilston and Wolverhampton, at Parkfields; the measures are 19 ft. thick, containing 11 bands of ironstone from 1 to 6 in. thick, and giving a total of 32 in. of ironstone; elsewhere it is not so fully developed.—The "Gubbin and Balls." This measure contains good workable ironstone, occurring principally between Wolverhampton and Walsall. At Chilington the thickness of measures is nearly 7 ft., with four bands of ironstone, giving a total thickness of ironstone of 23 in. The "Blue Flats" ironstone, so called from the flat pavement-like form in which it occurs, at Park Hall, south of Wolverhampton, in a section of 8 ft. 9 in. of measures, are four bands of ironstone, giving an aggregate thickness of 16 in., while at Rycroft, near Walsall, the measures are found in a thickness of 18 in., with two bands of ironstone each 3 in. thick.—The "Silver Threads." This measure occurs in the district around Walsall, varying from 4 to 7 ft. thick, composed of three or four bands of ironstone, varying from 1 to 4 in. in thickness, and so named from the little threads of shining spar which traverse the ironstone. The "Diamonds" ironstone, the lowest in the series, is confined, like the Silver Threads, as a workable ironstone to the district west of Walsall, where it occurs from 2 to 4 ft. thick, and contains two bands of ironstone varying from 2 to 4 in.

REDUCTION OF IRONSTONE.—The estimated produce of the measures of this district is as follows in each of the years named:—

| Year. | Ironstone. | Year. | Ironstone. |
|-------|--------------|-------|--------------|
| 1860 | Tons 755,000 | 1871 | Tons 705,665 |
| 1861 | 727,000 | 1872 | 641,950 |
| | 709,500 | 1873 | 584,325 |

The average price of which during the past three years may be taken at 12s. per ton. The following table shows the details of production in the year 1873, as returned to the Mining Record Office:—

| District, or mine. | Quantities. | Value. |
|-------------------------|-------------|------------|
| Barber's Field | Tons 11,011 | £ 6,006 12 |
| Barn Farm | 2,690 | 1,560 0 |
| Birchill's Hall | 6,206 | 3,723 12 |
| Bradley | 1,897 | 1,138 4 |
| Cannock Chase | 350 | 210 10 |
| Coppy Hall | 9,189 | 5,513 8 |
| Deans | 5,287 | 3,172 4 |
| Friar Park | 5,614 | 3,368 8 |
| Grace Mary | 2,645 | 1,587 0 |
| Granville | 3,695 | 2,217 0 |
| Haden Hall | 6,480 | 3,888 0 |
| Hatherton | 8,298 | 4,978 16 |
| Jervoise | 2,122 | 1,273 4 |
| Moxley | 1,880 | 1,128 0 |
| New Cross | 15,603 | 9,301 12 |
| Old Hall | 7,100 | 4,260 0 |
| Parkfields | 5,073 | 3,043 18 |
| Priestfields | 3,735 | 2,541 0 |
| Princes End | 3,118 | 1,570 16 |
| Pearson | 2,125 | 1,275 0 |
| Riddings | 2,168 | 1,300 16 |
| Riv. Stow Heath | 7,045 | 4,227 0 |
| Riv. Stow Heath | 9,404 | 5,610 0 |
| Riv. Stow Heath | 11,312 | 6,787 4 |
| Riv. Stow Heath | 3,971 | 2,382 12 |
| Tansey Green | 2,073 | 1,245 16 |
| Tipton Moat | 6,374 | 3,824 8 |
| Wednesbury | 5,232 | 3,139 4 |
| Wednesbury Oak | 4,000 | 2,400 0 |
| Yeatham | 5,541 | 3,324 12 |
| Sundry pits | 73,191 | 43,914 12 |
| Ditto (estimated) | 350,004 | 210,000 0 |

Total of South Staffordshire...Tons 584,325 £349,041 10

ANALYSES OF THE IRONSTONE.—The late Mr. Samuel H. Blackwell, of Dudley, in the year 1851, made a very valuable collection of the iron ores of the United Kingdom, in which those of the South Staffordshire coal field held a prominent place; they were exhibited in the Great Exhibition of that year, and at its close were presented to the Museum of Practical Geology, where they are now preserved. Mr. Blackwell's generosity did not end with the presentation of the collection of iron ore upon which he had expended so much time and labour; he accompanied his gift with a sum of 500/- towards defraying the expenses of an analytical investigation of the more important varieties of ore in the collection. The analyses were made in Dr. Percy's laboratory, and subsequently published in the "Iron Ores of Great Britain." The ores of South Staffordshire, nearly 30 in number, of which complete analyses have been made, are contained in Part II. of the above-named Memoirs. It will be sufficient, however, to give the composition of two of the characteristic iron-

stones of the district—the "Gubbin," of Dudley, and the "White-stone," of Rough Hay, Darlaston, the former of which is described by Mr. A. Dick, as follows:—"Clay iron ore; colour, greyish black; structure, compact and homogeneous. It contains thin veins of white pyrites occur."

Results tabulated.—Ore dried at 100° C.

| | Gubbin. | White-stone. |
| --- | --- | --- |

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take, and the north pit the upcast or outlet, both of which are used for drawing purposes.

The area of the royalty at Shotton includes about 5700 acres, and the average output per day is about 1000 tons. The colliery has a long life before it when it is stated that there yet remains to be got no less than 51,466,337 tons of coal, which at the present rate of output will take upwards of 170 years before the mine is exhausted. The Low Main, the Harvey, and the Hutton seams are the only ones now being worked, and this computation applies only to them. The Low Main is worked S.E. to the dip, and the coals are hauled to the shaft with a 60-horse double-horizontal hauling-engine fixed near the shaft underground. The distance of the workings from the shaft is 3600 yards. The Harvey seam is working S.W., a distance from the shaft of 2200 yards. The coals are conveyed thither by horse-power; and in a S.E. direction, at a distance of 1500 yards from the shaft, the coals are brought by a double-horizontal engine (60-horse power), fixed near the shaft, also underground. The steam for both engines is conveyed in pipes down the south shaft from six cylindrical boilers, each 40 ft. by 5 ft., fixed near the top of the pit. The workings are carried on on the long wall system in the Harvey seam, and in the Low Main and Hutton seams the bord and pillar working is carried on.

Whenever it is resolved to mine no further in any direction where the pillar system is carried on the pillars themselves are gradually excavated. This is certainly the most hazardous work of all, for the roof becomes shaken by the gradual loss of support, the wooden props are finally knocked down, and it requires extreme agility, even in an experienced pitman, to secure the prop and his own retreat at the same time. We have heard the succeeding crashes of the roof in other pits with no very courageous heart. The deserted portion is called "waste," and it is here that those reservoirs of carburetted hydrogen are collected which are out of the reach of ventilation, and therefore most dangerous. This inflammable gas is mixed with unequal quantities of olefiant, carbonic acid, and nitrogen gases. These compounds exhibit very different degrees of inflammability when mixed with atmospheric air, according to the different proportions they contain of nitrogen, carbonic acid, and olefiant gases. The former two gases diminish, the latter increases, the inflammability. Contrary to popular expectation, the larger the amount of atmospheric air with which the pit gases can be mixed without losing their destructive power the more dangerous are the explosive mixtures formed by them in coal mines. The most readily explosive mixture of fire-damp with common air is one measure of the former to about seven or eight of the latter. The ventilation of the Shotton pits is, however, accomplished by the most approved apparatus.

The machinery at the mouth of the pits consist of two vertical winding-engines, each 100-horse power nominal fixed between the two pits, and one pumping-engine, condensing 90-horse power fixed on the western side of the south pit shaft. The coals are shipped on Sunderland, Seaham, and Hartlepool by connecting lines from the colliery, and the main purpose for which they are used from the Harvey seam is as coking coal, from the Low Main seam as steam coal, and from the Hutton seam as gas coal. The Hutton seam produces the best of household coal, although for a long time the High Main coal of the Tyne, under the designation of Wallsend, was the most popular. This is ascribed by writers on the subject to the fact that they were sold pure. It is not that coal similar, or indeed of superior, quality was not produced by the North Durham collieries, but that the coal of such quality from North Durham was mixed and sold with other coals of an inferior quality. Another element of industry to which the colliery has given rise, and with which it is associated, may be mentioned the large number of artizans it employs. The workshops of the colliery are numerous and extensive, and consist of joiners' shop, fitting shop, saddlers' shop, blacksmiths' shop, stoneworkers, &c. The village consists of some 469 houses of various classes, suitable for the accommodation required by the occupants.

As in other colliery communities, ample provision is made for the spiritual wants of the population. The places of worship include a church and two Methodist chapels, whilst schools are provided for boys, girls, and infants, which afford accommodation for some 527 children. There is a reverse side to the medal, however, and the taste for strong drink is as marked in this as in other similar localities. No doubt the social condition of the miner has been much improved of late, but there is still a large residuum of ignorance, with its attendant vice, which remains untouched by the ameliorating hand of progress.

THE MINERAL RESOURCES OF THE SOUTH-WEST OF IRELAND—NO. XIII.

[FROM OUR SPECIAL CORRESPONDENT.]

DRENNALAMON BARYTES.—This is the oldest and most extensive barytes works in the South-West of Ireland. So recently as 1818 we find in Begley's "Useful Knowledge" the following remarks—"With us the sulphate of barytes is of no use in the arts. The Chinese, however, employ it as an ingredient in the composition of porcelain, and it is said to form a good manure for clover fields." It appears that oxygen and barium combine to form two compounds—the protoxide, usually called barytes, or baryta, and the peroxide of barium. The first of these oxides (barytes), it seems, was discovered in 1774, by Scheele. Barytes is that, combined with sulphuric acid, and forming what is chemically termed sulphate of barytes, and also with carbonic acid, constituting the mineral designated by mineralogists witherite, or carbonate of barytes.

Sir Humphry Davy first gained indications of the decomposition of barytes in the year 1807, and obtained an alloy of it with iron in 1808; and in the same year he obtained the metal which, in appearance, resembles silver. It appears from Begley's works that the sulphate of baryta was of no use in the arts in 1818. In 1839-40 it was scarcely known in the South-West of Ireland. Some small pieces were found near a public road at Drennalamon, in 1840, by the late Rev. Dr. Traill. He did not know what it was until Capt. W. Thomas informed him that it was sulphate of barytes, and used principally then, 1840, in adulterating white lead. Since then, however, it is extensively used by cotton manufacturers, by paint and colour makers, who mix it with lead and zinc in the manufacture of the most permanent white known, and by makers of paper, porcelain, pottery, plate glass, and chemicals. From 30 to 50 per cent. of baryta is used in the manufacture of the best description of porcelain in the Staffordshire potteries; and the great plate glass manufacturers at St. Helen's, Liverpool, cannot, I am informed, find an article equal in purity to that supplied from the Drennalamon Mine. Those who may have seen the beautiful articles produced at the Bellerby pottery are, probably, not aware that the principal ingredient which enters into their composition was dug out of the rugged mountains of West Cork, or that the splendid mirrors which adorn the walls of the princely halls of Castle Bernard were derived from the same source—the Drennalamon Barytes Mine, the situation of which is on the western slope of Mount Corrin, and close to the road leading from Ballydehob and Schull to Durus and Bantry. This great deposit of barytes occurs in a lode from 6 ft. to 20 ft. wide, running in a north and south direction, and cutting across the strata. It is a singular fact that when barytes is found running with the cleavage of the rock it is invariably in small veins and strings, and never occurs in large masses, or worth following.

The barytes in Drennalamon is the pure sulphate of baryta, and cannot be equalled except in one other spot (Portrave). The mine has been irregularly worked for many years, and although tens of thousands of tons of barytes have been shipped, no impression has been made on Mount Corrin, and the works are only now about 30 fms. deep.

IMPROVED MINER'S LAMP.—By the invention of Mr. J. SAWYER, Freeburg, Ill., the lamp is filled with sponge, except a well in the middle, from which the sponge is held by a spiral wire, to allow the wick to extend down into the lamp. The lower end of the wick tube is funnel-shaped, and the wick is fastened out thereto to the sides of the well, to touch the sponge, so as to draw the oil held in it. The flame regulator consists of a tubular sleeve on the upper end of the wick tube, to slide up and down along the flame, and has a rubber-spring ring to hold it fast. There is a hook for connecting the lamp to the hat of the miner, and

a spring for securing it. With this improved lamp miners can safely burn gas-line and other light products of petroleum, which are much cheaper, and give better light, than the lard oil commonly used.

THE NORTON GREEN COAL COMPANY (LIMITED), STAFFORDSHIRE.

The above colliery, which was opened some few months ago under most excellent auspices, has progressed in an extraordinary manner, a suitable engine, winding gear, &c., having been put down, and is now in good working order, and the surface laid out with every possible care for developing the mines on a large scale, so much so that on our visit, some few days ago, we were astonished at the "beehive" and scientific appearance of the concern. We find that an incline has been driven on the Frogrow seam of coal (which is fully 5 ft. 6 in. thick in solid coal) some 160 yards, and the manager reports that in some four or five weeks time he will have driven down to the part where he intends to drive his first levels to the right and left, and thus on scientific principles bring the whole of the coal to the surface. In this seam, at about the depth of 100 yards, a small longitudinal fault was met with (the only one in the neighbourhood, we believe), which gave some trouble and annoyance for a few weeks in driving the dip, but it was necessary to go right through this fault, for the purpose of having a straight run for the tramway and wagons, and the work is now progressing most favourably.

Some 120 yards on the surface, to the west of this dip, another incline of the same dip has been driven for a considerable extent on the Cockshead seam, which is proved to be within a mere trifle of 8 ft. thick (this coal being considered the champion coal of the district), and the manager reports his intention of shortly commencing to drive his levels right and left, as in the Frogrow seam, when, no doubt, a very large yield of coal (estimated at 1000 to 2000 tons per week) will be the result of this pair of inclines, the engine on the surface being so placed that the tramways down both dips can be worked at one and the same time without any extra winding gear, thus proving the report issued by the directors in the first prospectus of this company of the economical manner these mines could and are now being worked. We are also informed that the whole of the output of these mines can be readily disposed of at highly remunerative prices in the immediate district, but, should that not be the case, an arm of the canal to the Potteries runs within some 200 yards of the property, to which a tramway could easily be laid down, and the wagons emptied into boats at one tip.

At the foot of the dip on the Frogrow, or first seam of coal, a level will be driven to the west, which will, consequently, intersect several other most valuable seams of well-known coals, thus enabling the seams so crossed to be worked up the two dips above mentioned; this we consider a most excellent device, and proving at once that every attention is being paid to the development of these mines on an economical principle.

We are informed that the whole of the shares issued have been taken by the first shareholders, and on enquiries we find that 12. premium per share is demanded and obtained. Looking at the district and the nature of the surface, we cannot praise too highly the engineering skill brought to bear with such satisfaction (and good results must follow) on the property. We venture to predict for the Norton Green Coal Company a most profitable return for their investment. The registered offices of the company are at 88, Portland-street, Manchester.

ENGLISH COAL ABROAD.

There was a large increase last month in the exports of coal from the United Kingdom, the total shipments for June having been 1,429,620 tons, as compared with 1,087,125 tons in June, 1874, and 1,062,612 tons in June, 1873. There was a great expansion in last month's shipments to Germany, France, and Italy. Thus we sent last month 251,732 tons to Germany, against 209,203 tons in June, 1874; to France, 243,457 tons, against 171,196 tons in June, 1874; and to Italy, 108,118 tons, against 56,428 tons in June, 1874. The liberal exports of June slightly changed the character of this year's statistics in respect to our aggregate coal shipments. Thus we exported 6,197,209 tons of coal to June 30 this year, against 5,171,526 tons in the first half of 1874, and 6,018,910 tons in the first half of 1873. France occupies the foremost place among our external coal customers, having taken 1,281,031 tons to June 30 this year, against 1,117,601 tons in the first half of 1874, and 1,172,332 tons in the first half of 1873. Germany has ranked second as a foreign consumer of British coal this year, and Italy must be placed third. It will be seen that France had already taken 1,281,031 tons of coal from us to June 30 this year, or about as much as she formerly imported from us in a whole twelve months. In the whole of 1855, indeed, France took from us only 881,339 tons of coal, while this year's imports—assuming that the second half of 1875 presents similar results—will amount to 2,562,062 tons. This year's imports will thus be nearly three times as large as those of 1855; and it must be admitted, even by French economists, that the avowed policy of NAPOLEON III. to render France independent of her neighbours—and especially of Great Britain—in the matter of her coal supply has thus far resulted in failure. The efforts made by the French Government to increase the indigenous coal production of France have not been altogether unsuccessful, but the coal consumption of the French has expanded in a still more rapid ratio—partly by reason of the increase of wealth, and consequent comfort and luxury, among the population of France, and partly by reason of the vast development of French manufacturing industry during the last 15 or 20 years.

These observations apply in a lesser degree to Germany as well as to France. Germany probably never raised so much coal from her soil as she does at present, but Germany never imported more coal from England than she now receives from our shores. The increase in the consumption of coal which has taken place in Western Europe during the last 20 years is one of the most wonderful features of this wonderful century. Although the surface of European life has been disturbed by revolution and ruffled by war since 1855, wealth has, nevertheless, gone on accumulating, and manufacturing enterprise has expanded in a corresponding ratio. The result is that the consumption has been ever increasing, and however great may have been the efforts made by European coal producers, they have not altogether kept pace with the requirements of European coal consumers, and Great Britain has had to come to the rescue even to a greater extent than ever.

One remarkable feature about our foreign coal trade this year has been the marked decline in prices, and in the consequent aggregate value of the coal which we have exported. Thus the 6,197,209 tons shipped to June 30 this year were officially valued at 4,348,290, while the 6,171,526 tons exported in the first half of 1874 were priced at a total of 5,823,254. Perhaps the greater moderation which now characterises our coal markets in the important matter of prices has something to do with the revival in the exports. When our coal becomes a little cheaper our foreign and colonial friends not unnaturally purchase it a little more freely. At any rate, this appears to be a not very unreasonable inference upon the face of the comparison which we have just made.

At the ST. GOTTHARD TUNNEL, in Switzerland, the MCKEAN ROCK-DRILL has superseded all other drills. Eight different types and sizes of the Mckean Drill are now manufactured, the lightest weighing only 70 lbs. See advertisement in Supplement to this day's issue of *Mining Journal*.

STEAM-ENGINES.—Mr. I. FIELDEN, of Glasgow, has patented an invention the novelty of which consists in making the motive cylinders of reciprocating steam or other motive fluid engines (either of the high or low pressure class) with moving ends, in lieu of the usual fixed bottom or covers, for the purpose of automatically following up the motion of the piston from each end for some distance, so as to shorten the cylinder on the acting side before admitting the motive fluid, and cause it to act at once with full force on the piston when the crank is at a considerable angle on either side of the dead plumb centre line. Various modes may be adopted of fitting the ends of cylinders of engines that they may be moved automatically, by an arrangement of mechanism primarily actuated from the crank shaft or other continuous acting part of the engine. Under one mode a screw with a coarse pitch may be cut on the periphery of the moving ends of the cylinder, and fitted into the ends thereof with a packing ring, so that by turning either end through a stud joint it would be secured into or out of the cylinder as desired, to give the length of motion required by the arm of the lever connected to it by a connecting rod and universal joint. Or these ends might be turned by toothed gearing

or cam mechanism; but when the lever is used it might be of the bell crank form, and have its short arm actuated by a vertical reciprocating rod connected to it above and working in guides below, and having a stud roller on its lower end working in a cam groove fixed on the crank shaft. Steam is admitted, when the end cover has stopped its inward motion, along with the piston, through ports (entering the cylinder at equal distances from its extreme ends) having ordinary valves to steam and cut off and expand to the shortened end of the effective acting stroke of the piston. Instead of the screw for sustaining the reaction of the steam on these moving ends these might be reciprocated by a cam motion direct from the crank shaft, and released by any convenient arrangement of locking and unlocking mechanism actuated simultaneously by a separate cam, actuated from any moving part of the engine.

Original Correspondence.

BORING MACHINES—THE DARLINGTON BORER.

SIR,—Having had some experience in using hydraulic machines, and having been present when the Darlington borer was tried in London before the members of the Institution of Mechanical Engineers, and in Falmouth at the Miners' Association meeting last year, I have read with much astonishment the letter signed "Mine Adventurer," in last week's Journal, criticising Mr. Darlington's paper on these subjects. "Mine Adventurer" prefers to transfer the water-power at a pressure of 25 lbs. per inch, instead of 500 lbs. as used by Mr. Darlington at the Wildberg Mines. This is a wide difference of opinion; let us see how it would affect the "pressure" on adventurers' pockets. It is obvious that to obtain satisfactory results with water at an initial pressure of 25 lbs. per square inch at least 20 times more volume will be required than if the water were used at 500 lbs. pressure; the supply main for 25 lbs. pressure must, then, be 20 times the area required for 500 lbs. pressure; in other words, the transit pipes should not be less than 9 in. instead of 2 in. diameter. For the aggregate distance the power is stated to be transferred at the Wildberg Mines (8400 ft.), the cost of material alone for the transfer main would be increased from about 450/- for 500 lbs. pressures to about 2600/- for 25 lb. pressures.

The "very costly transfer main," which "Mine Adventurer" asserts 500 lbs. pressure involves, appears to me to be about one-sixth that necessary for his suggested 25 lbs. pressure main, and the same proportion of diminished bulk and cost will follow in the engines where the power is used in the mine, whether for pumping or drawing purposes. If "Mine Adventurer" has ever been underground, and knows the usual size and tortuous line of a level, and the limited space of a winze head, he will appreciate the advantage of a 2-inch pipe overhead instead of a 9-inch pipe, and also of the small size of a drawing-engine at a winze at 500 lbs. pressure, and should learn that where a single kibble must be used a brake is not an "inconvenient or uncontrollable" way of checking the descent of an empty kibble. Having for many years worked machinery with water transferred at pressures as high as 2000 lbs. per inch, I would strongly advise Mr. Darlington to work in future at higher pressures than he appears to have done, where distance of transit is great, and the space where the power is to be employed is limited.

"Mine Adventurer" further says that "the assertion that water at 500 lbs. per inch can be taken more than a mile by 1½-inch tubes with a loss of but 5 per cent. must either be based upon an error, or proves that the experience of all men of science with regard to the friction to be overcome in passing fluids through pipes is worthless, and that Mr. Darlington has discovered a new law." Before writing in this strain it would have been better if "Mine Adventurer" had referred to some elementary work on hydraulics, by which he would have discovered that the friction of water in its passage through pipes depends upon its velocity, and that if that is sufficiently low a friction loss of only 5 per cent. or less may occur. As the velocity is not given by Mr. Darlington, and must be much less than the velocity due to the natural head, it is premature to credit him with the discovery of a new law, as the result given by him is quite possible under the well-known hydraulic conditions.

As to the "Darlington" rock-borer, I have not at hand the notes I took respecting this machine at the trials, but I know that the results were very closely worked out by the engineers present, and, so far from arriving at "Mine Adventurer's" opinion that much of the effective pressure of the air is lost, it was considered that the expansion of the air by cutting off at half-stroke effected a great economy.—London, July 15.

FREDK S. KING.

[For remainder of Original Correspondence see this day's Supplement.]

WATER AND COMPRESSED AIR-POWER FOR MINING BY MACHINERY.

It appears that the communication of "Mine Adventurer," in the Supplement to last week's Journal, contains references to the Wildberg hydraulic machinery, based upon the erroneous supposition that the question to be solved was merely to convey power to a distance of a mile horizontally from a given point, where there was a head of water equal to 25 lbs. on the square inch. Had this been so there would have been no difficulty in the matter, but the fact is that the Wildberg Mines are at a greater elevation in the mountains than any of the surrounding country, and the power has really to be taken to a point considerably higher than that at which the 25 lbs. initial pressure is available. The difficulties were by no means trifling. Public roads, across which large pipes or launders were not permitted, existed between the source of the power and the point of its application, and some of the best mining and engineering authorities in Germany have congratulated Mr. Darlington upon the admirable manner in which he surmounted the many obstacles which had to be encountered.

The method of utilising hydraulic power referred to in the paper submitted to the Miners' Association is not expensive. The engines at Wildberg are not costly ones, neither is there a large series of complicated machinery, and the transmission of water at a pressure of 500 lbs. per inch does not necessitate the use of a costly transfer main, on the contrary, the main is a very cheap one. This is explained by the peculiarity of the case. The flanges are not packed in the ordinary way with gutta percha. The pumping and winding engines are undoubtedly also special, but are not complicated, and are inexpensive. The underground winding-engine is also perfectly under control; the kibble is attached to a light wire-rope, and is conveniently dropped by means of a brake.

In the paper referred to the loss of transmitting the power is not positively stated to be 5 per cent., neither is the velocity of water in the pipes given, by which the loss of power can be theoretically calculated. Cheap tubes of large diameter could not be admitted into the level, nor could the power be conveyed and applied direct, as is evident from the details already given. The expense of maintaining the engine is but little. Water, the means of power, is obtained without any cost whatever. The simple problem was not to raise a kibble a mile away; there were other elements in the problem of which "Mine Adventurer" could have no knowledge. The figures 17°05, instead of 17°04, are a misprint.

With regard to "Mine Adventurer's" allusion to rock borers, it should be mentioned that the majority of practical men do not consider that the true test of a rock-drill can be ascertained by running (no work being done) down to the lowest pressure at which it will reciprocate. A piston running at 7½ lbs. per square inch will, if the piston-rod be reduced so as to double the area, run at 3½ lbs. per inch. The efficiency of a rock-borer depends upon no such simple and direct conditions. There is in practice no difficulty about getting or keeping the parts of a valveless borer in correct position. These ought to be less than in borers composed of a greater number of parts.

There is not a loss of 25 per cent. of power by keeping the air continually on the underside of the piston, neither is it accurate to state that the ratio in the single-acting borer is calculated at 4 to 1. Both single and double-acting borers are, moreover, made. The borer is in the hands of French and German engineers, who highly approve of it for its few parts and simple action, and who after a long experience with some other borers have discarded them.

LIGURIA GOLD MINING COMPANY.—A petition for winding-up this company by the Court of Chancery has been presented to the Lord Chancellor by Mr. Arthur Dean, of the Cannon-street Hotel, mining engineer, and Mr. Robert Gillman, of Ashley place, Westminster.

HAYWARD TYLER AND CO.'S PATENT "UNIVERSAL" STEAM PUMP.

[STAND 106—ROYAL AGRICULTURAL SOCIETY'S SHOW, TAUNTON.]

The chief feature of novelty in the exhibit of the above firm is a modification of the well-known "Universal" direct-acting steam-pump—the slide-valve being placed on the outside of the steam-cylinder instead of in the inside of the piston, as was formally the case. The advantages claimed by this arrangement are that the piston takes the whole length of stroke, an ordinary piston being used. The valve can be started from the outside should it have become rusty by standing, and also that the reversal of the slide is exceedingly slow, as in the motion of a crank—slow at the ends, and quick in the centre—thus allowing the valves time to close with ease. The pump at the Taunton show ground is supplied with steam by a vertical boiler, working at 60 lbs. per square inch. The diameter of the steam-cylinder is 10 in.; that of the pump, $7\frac{1}{2}$ in.; stroke, 15 in. When the discharge pipe is reduced to $\frac{1}{2}$ in. by a fire-engine nozzle the gauge shows 80 lbs. on the pump, or equivalent to 187 feet head, the discharge being at the rate of about 15,000 gallons per hour. When working under these conditions the engine and pump are perfectly noiseless, the only sound being the heavy beat of the exhaust steam, similar to that of a locomotive engine when going up a bank; not a sound from the pump, the valves being of an improved form of rubber. The engine, too, is equally noiseless, as in the reversal no tappets or small valves are used. The reversing action is effected by the piston passing over small ports, exactly as the "Universal" is usually made. Hence the great durability of this class of pumps.

We have on former occasions called the attention of our readers to this pump as a most efficient machine, and we think the recent modifications are well worthy of their notice, as the advantages are gained without any sacrifice of simplicity of construction; on the contrary, if anything, its simplicity is rendered more simple in the present arrangement. We hope soon to give illustrations.

Meetings of Public Companies.

GLAISDALE WHINSTONE QUARRY COMPANY.

A special general meeting of shareholders of this company was held yesterday at the Guildhall Tavern, Gresham-street,

Mr. J. W. WILLIAMSON in the chair.

Mr. JAMES H. CROFTS (the secretary) having read the notice convening the meeting,

The CHAIRMAN said that he would ask their forbearance, as he was suffering from a severe cold. This meeting was called in consequence of the very small attendance previously, and he could have wished there had been more at this meeting, in order that they might have the views of the shareholders upon the subject. They had long said that they had sold ore and stone, and the difficulty was in getting payments in time to meet the costs, which had been during the management of Mr. Hutchinson something like 50, or 60, a fortnight, and latterly the stone had come up very nearly to the amount of the cost; but inasmuch as they did not get the money for the stone in time for the cost, the board had been compelled to borrow or find the money themselves. This was not a right state of things, nor was it what they would always be able to do, because it was not always convenient for the directors to advance the money, and they had come to the conclusion that it was desirable to have a further issue of capital to pay the expenses. Since then the manager, Mr. Hutchinson, for what reason he did not know, had retired. At the last meeting when he took the chair Mr. Hutchinson's account was a most flourishing one, and then, whether or not he had got another appointment in view, he said there was a great deal more work to be done than they expected. Whether it was so or not he could not say, but the result was that Mr. Hutchinson had left and had got another situation. The present manager there was the old manager, Mr. Watson, who was a man possibly sanguine in his views; but if they were to believe his statements, it was as fine a property as they had ever believed it to be. Now he was the superintendent, and he thought that instead of taking away all the top hamper which they had to attack, and which was a very expensive thing, and for which they had a tramway laid down, it would be a saving of expenses, besides getting better quality of stone and easier from the drifts. Mr. Cooke had been down to the quarry recently, and he would tell them the actual position of the concern as seen by himself. He would tell them what could be done in the quarry. The stone was there, and the thing was to get it out. He believed that the manager would have been more successful than he had been, especially after the reports he had given. Mr. Hutchinson was accustomed to other stone, but not to whinstone working. But the floors had been opened right away, and the stone got out; and as they went down deeper they expected the stone would be better. As they got into the hill there was no question that it was better, but at times there were faults in the stone which challenged them. At present they had a great deal of dead to do; but at the same time they were told, and believed, that the ore was there and could be got out sufficiently to pay satisfactorily to the shareholders.

Mr. COOKE said that, as a director and a large shareholder in the concern, he had paid a visit to the quarry last Tuesday, and he hoped that the results of his inspection would tend to satisfy them as to the present position and future prospects of the quarry. He had been very much disappointed with Mr. Hutchinson's management. He had been down several times, and he generally felt that the manager was making good progress at the works. Many improvements had certainly been carried out, which would be of great benefit to them by-and-by, and would save material expenses; but what they had to do now was to look to their present position. As the Chairman had told them, they had almost to get rid of the manager. They found him too extravagant, and not likely to bring the quarry to that state in which they could wish it to be. He had consulted Mr. Watson, the former manager, in whom he had every confidence. He was sorry that Mr. Watson was not present at the meeting, but he would ask them to believe what he said, because he believed that Mr. Watson had their interests at heart. Mr. Watson had written to him as follows:—“Whitby, July 14, 1875. Dear Sir,—I have looked over the quarry carefully, at your request, and feel persuaded that during the last few months it has not been developed with due regard for the future, viz.—the top floors have been worked upon while the very best stone has not been opened up. However, under existing circumstances, I calculate with an outlay of about 30/- I could get the quarry so that in two months it would make regular, steady, and gradually increasing profits. I feel certain, from my long experience, that there is ample stone in the royalty to make good yearly returns. The demand for stone is good, and increasing every season.—Yours truly, THOMAS WATSON.” He looked upon this as very satisfactory. They did not ask for money to lay out upon the quarry, because Mr. Watson, in his estimate, said that 30/- or 40/- was quite sufficient. During the next two months they would be raising stone sufficient to pay the cost, with the exception of 20/- for laying down additional lines into the drift, and 10/- for removing earth and making certain alterations which Mr. Watson deemed desirable. The Chairman explained what this money was for, as they had to wait for two months before they got paid for the stone away; it was required for working the quarry. They did not want to spend any more money, and he was sure that Mr. Watson would do what he promised with their 30/- or 40/- in the two months, and he felt convinced that, as Mr. Hutchinson had stated in his last report, they would have a dividend before the close of the year. He saw no difficulty himself; he was pleased with the appearance of the quarry. The stone was turning out more solid and better than he had seen it before, and he had been down a good many times. His father had taken up the quarry, and had expended about 4000/- on it, so that it was a sufficient guarantee to show that they had faith in the concern. When he took it up he looked upon it as a nice little investment to bring in a regular income. The 500/- required was a very small sum amongst a body of 50 shareholders, some of whom were influential and wealthy men. He was sure, if they took a little more interest in the undertaking, they would not hesitate at all. He would be very pleased if it was in his power to subscribe a further large amount; but, having put so much money in the concern, he could not keep on doing so. He would leave it to them to come forward and subscribe for the shares, and show the country shareholders that they in London took an interest in the undertaking, and came to the help and support of the directors in their endeavours to promote the interests of the shareholders.

A SHAREHOLDER asked if any of the shares offered to the shareholders had been taken up?

The Chairman answered that very few had been taken up. There was a gentleman present at the last meeting who offered to take the whole 5000/-, and they did not accept his offer then, as they did not consider it would be fair to the other shareholders to accept it. They had seen him since, but he then said he was not in a position to do so. Perhaps some gentlemen would wish for a debenture security, and in that case the property would be mortgaged. He (the Chairman) then explained, in answer to a question, that the purchase money of the quarry was paid in shares.

Mr. COOKE stated that the working capital was 1500/-, that being all that was

subscribed by the public at the commencement, and the vendors took all the price in shares.

A SHAREHOLDER asked how many tons would be returned per day?

Mr. COOKE replied from 60 to 100 tons per day, the profit on which would be at least 2s. if the men took it on tribute. If they went in as Mr. Watson said he had calculated they would get enough to pay an interim dividend at the rate of 10 per cent.

Mr. FOWLER then proposed, “That a sum not exceeding 500/- be raised on debentures, bearing interest at the rate of 10 per cent. per annum, such debentures to be for the sum of 10/- each, and for the period of three years, and to be secured upon the property of the company. Debenture holders to have the option at any time before payment of the debentures of exchanging them for shares of the company at par. Interest will be payable half-yearly.”—Mr. VICKERS seconded the motion, which was put to the meeting, and carried unanimously.

With a vote of thanks to the CHAIRMAN, the meeting separated.

[For remainder of Meeting see to-day's Supplement.]

WEST CHIVERTON MINE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Several shareholders having called my attention to the remarks on the management of this mine by the writer of the Mining Market article in the Journal of Saturday last, I request, as a matter of simple justice, to be allowed a few lines in reply. First, as regards the frequency of reports, the writer of the article says—“Reports showing the value of the different points of operation and the general state of the mine should be furnished weekly.” To this I answer that all alterations in the mine, whether of the nature of a falling off or improvement, are duly reported in the *Mining Journal* for public information. A full report, giving the value of the different lodes, ore sold, &c., is also published monthly, immediately after each settling day, and this is considered sufficient by the general body of *bona fide* shareholders.

The next assertion as to the difficulty of getting information on important points is a complete misapprehension, as every information is cheerfully given both by the committee, manager, and myself to *bona fide* shareholders, at any time, and I challenge anyone to deny it.

The committee considering it requisite in the interest of the shareholders to limit the public inspection days to such times as would least interfere with the duties of the agents, appointed the first and third Tuesdays in every month for that purpose. At these times any shareholder is allowed either to inspect the property himself, or send an agent to do so on his behalf. At the last inspection day four orders were issued, three of them being in favour of Stock Exchange jobbers, who only require reports for market operations, and who, according to the books of the company, held between them 33 shares only. The presumption that the condition of the mine is known weekly, if not daily, to the principal dealers in the shares, and withheld from others, is, to say the least, an assertion not justified by facts.

GRANVILLE SHARP, Secretary.

Gresham Buildings, July 16.

THE TIN TRADE—STATISTICS OF TIN.

COMBINED STOCKS OF FOREIGN TIN FLOATING AND WAREHOUSED.

1st day of Jan. Feb. March April May June July
Banca in Holland 4228 4280 4080 3400 3291 3312 3110
Straits and Australian in London 2805 3951 4482 5079 5916 5886 6127
Billiton in Holland 988 980 1005 935 894 705 694

Total warehoused 8109 9191 9554 9654 10131 9883 9931

Banca afloat 300 70 90 90 706 716 917

Billiton, do 1580 1727 1118 1210 1035 630 760

Straits, do 715 360 480 350 714 600 1000

Australian, do 1300 1500 2000 1900 1150 1100 800

Total floating 3895 3657 3688 3550 3105 3046 3477

Total—afloat and warehoused 12004 12484 13242 13204 13736 12929 13408

Total stock, July 1, 1874 8298 8916 8577 8477 8903 8714 9497

1873 6846 7224 7543 8387 8836 8940 9064

1872 5901 7128 7472 6601 6595 6825 6790

Deliveries from stocks in London and Holland:—For six months ending June, 1873, 5800 tons; six months ending June, 1874, 6837 tons; six months ending June, 1875, 10,085 tons.

London imports:—For twelve months, 1873, 6712 tons; twelve months, 1874, 8535 tons; six months of 1875, 9445 tons.

Price of Straits tin:—July 1, 1873, 135/- per ton; July 1, 1874, 101/- per ton; July 1, 1875, 83/-.

SANFORD AND BIRD.

Works 139,180 0 0 0 0 0 0

Totals £175,955 0 0 0 0 0 0

For the same year the quantities and prices of the finished products of the chemical works on the Tyne were returned as follows:—

| | Tons. | Price. | Value. |
|---------------------|---------|---------|--------------|
| Pyrites | 72,900 | £1 10 0 | £102,200 0 0 |
| Salt | 90,000 | 0 15 0 | 67,500 0 0 |
| Nitrate of soda | 2,500 | 14 15 0 | 36,375 0 0 |
| Chalk | 144,000 | 0 2 6 | 18,000 0 0 |
| Manganese | 11,400 | 4 0 0 | 4,600 0 0 |
| Rough Epsom salts | 1,500 | 2 5 0 | 3,750 0 0 |
| Magnesian limestone | 700 | 0 3 6 | 122 10 0 |
| French limestone | 14,000 | 0 4 6 | 3,150 0 0 |

For the same year the quantities and prices of the finished products of the chemical works on the Tyne were returned as follows:—

| | Tons. | Price. | Value. |
|--------------------------------|--------|------------|--------------|
| Alkali | 43,500 | £8 10 0 | £369,750 0 0 |
| Crystals of soda | 51,300 | 4 15 0 | 243,675 0 0 |
| Bi-carbonate of soda | 7,450 | 12 0 0 | 89,400 0 0 |
| Caustic soda | 580 | 18 0 0 | 10,440 0 0 |
| Hypo-sulphate of soda | 400 | 25 0 0 | 10,000 0 0 |
| Oil of vitriol | 6,440 | 6 0 0 | 38,640 0 0 |
| Epsom salts | 1,500 | 7 5 0 | 10,875 0 0 |
| Bleaching powder | 11,200 | 9 0 0 | 100,800 0 0 |
| Soap | 6,000 | 34 0 0 | 204,000 0 0 |
| Yellow prussiate of potash | 105 | 1s per lb. | 11,760 0 0 |
| Red | 40 | 2s 6d. | 11,200 0 0 |
| Alum | 4,000 | 27 0 0 | 28,000 0 0 |
| Carbonate of magnesia | 250 | 30 0 0 | 7,500 0 0 |
| Superphosphate of lime | 15,000 | 5 0 0 | 75,000 0 0 |
| Pearl hardener | 2,000 | 10 0 0 | 20,000 0 0 |
| Sulphate of iron | 2,000 | 3 0 0 | 6,000 0 0 |
| Venetian red | 4,000 | 5 0 0 | 20,000 0 0 |
| Sulphate of copper | 100 | 35 0 0 | 3,500 0 0 |
| Resin size | 100 | 7 0 0 | 700 0 0 |
| Lamp black | 1,200 | 7 0 0 | 8,400 0 0 |
| Grease | 2,800 | 8 0 0 | 22,400 0 0 |
| Cements | 12,000 | 2 0 0 | 24,000 0 0 |
| Chemical products of gas works | — | — | — |

For the same year the quantities and prices of the finished products of the chemical works on the Tyne were returned as follows:—

| | Tons. | Price. | Value. |
|--------|----------|--------|--------|
| Totals | £175,955 | — | £1,455 |

of raw materials used at 936,000 tons, of the aggregate value of 863,425*l.*, exclusive of all materials used for buildings, plant, and repairs; and, seeing that the destructive effects of the acids and gases employed involves the necessity of constant renewals of plant, the materials consumed under this head will be considerable.

Since 1866 the chemical trade of the Tyne has made less progress than it did in any corresponding period during the previous 30 years.

Mr. Richard Cail, the hon. sec. of the Tyne alkali trade, has estimated that the principal products of the chemical works of the

Tyne in 1874 are approximately as follows, although no exact sta-

tistics on the subject have been collected since those above quoted:—

| | | |
|-----------------------------|-------------|---------------|
| Soda crystals | Tons 86,000 | 74,000 |
| Alkali | 11,000 | 200 |
| Bi-carbonate of soda | 2,400 | 27,000 |
| Sulphate of copper | 3,720 | 590 |
| Sulphate of soda (for sale) | 29,000 | 29 |
| Bleaching powder | 700 | 2,000=217,030 |
| Custic soda | 400 | |
| Epsom salts | 700 | |
| Glauber's salts | 9,000 | |
| Oil of vitriol (for sale) | 400 | |
| Hypo sulphite of soda | 700 | |
| Mariotic acid (for sale) | 2,000 | |
| Chloride of manganese | | |

The raw materials used in the production of the above articles afforded employment to the shipping trade to the following extent:—

| | | |
|-------------------------------|--------------|-------------------|
| Inwards | Tons 622,000 | 800,000—1,422,000 |
| Coals (very little shipped) | 382,000 | |
| Outwards (including packages) | | |

Total..... 1,804,000

SUMMARY.

| | |
|---------------------------------------|--------------|
| Value of raw materials | £1,600,000 |
| Computed value of manufactured goods | 2,680,000 |
| Weight manufactured | Tons 382,000 |
| Weight carried in all by sea and rail | 2,186,000 |

The most recent statistics available with reference to the alkali trade of Lancashire show the value of the raw materials to amount to 869,000*l.*, and of the manufactured articles to be 1,883,779*l.* The totals for the whole of England appear, therefore, to be as follows:—

Value of raw materials, 1,700,525*l.*; value of manufactured products,

3,813,604*l.*; amount of capital employed, 5,000,000*l.*

As nearly as can be ascertained, the following are the dates at which

the older alkali works on the Tyne were begun:—

| Name of projectors. | Place. | Date. |
|--------------------------------|---------------|-------|
| Mr. W. Losh, and others | Walker | 1796 |
| Messrs. Doubleday and Easterly | Bell Quay | 1808 |
| Dr. Hutchinson | Felling | 1809 |
| Messrs. Cookson | Jarrow | 1823 |
| Mr. J. Allen | Felling | 1828 |
| Mr. C. Attwood | South Shore | 1830 |
| Mr. A. Clapham | Friar's Goose | 1831 |
| Mr. H. L. Pattinson | Felling | 1833 |
| Mr. T. Bell | Jarrow | 1836 |
| Mr. R. Meary | Jarrow | 1839 |

RATING PUBLIC COMPANIES' PROPERTY.

Although the principle of rating the property of public companies has recently been much simplified, the necessity for reliable professional guidance continues, since the almost innumerable points to be considered in determining the rateable value still exercise the same influence on the amount of the rate, which is of as much importance as ever to those who have to pay it. The volume* just issued by Mr. J. Balfour Browne, of the Middle Temple and Midland Circuit, brings together in a very convenient form such particulars bearing upon the subject as are necessary to permit of a correct judgment being formed upon any question likely to arise. It is a thoroughly comprehensive treatise upon the law of rating in relation to railway, water, gas, and other companies. He mentions the fact that some very important cases have recently been decided in the Court of Queen's Bench, and that the Railway Commissioners have given important judgments in two cases in which railway companies appealed to them as arbitrators, pointed to the necessity of a re-statement of many of the legal propositions in relation to rating, and a further treatment of some points which had been raised in connection with these more recent authorities. Mr. Brown asserts, with considerable truth, that there are few questions of greater practical importance, few which it is more necessary to find a satisfactory answer for than that as to the causes and cure of poverty. He maintains the necessity of a poor law upon the grounds that without it the poor would be at the mercy of the rich and the rich at the mercy of the poor, and remarks that "if the rich are at the mercy of the starving poor it becomes a matter of policy to feed them." He then goes on to say that ever since the feudal system, under which it was the duty and interest of the lord to maintain and protect his dependents under adverse circumstances, has fallen into desuetude, ever since the labour market has fallen under the influence of free trade, and labour and capital met on the ordinary terms of demand and supply, the necessity for legislative interference has been felt.

Mr. Browne's historical sketch of poor law legislation is particularly interesting. In 1736 complaint was made by the Commons of the multitude of beggars and sturdy vagrants that infested the cities and boroughs, and led to various statutes, with a view to checking, if possible, the growing evil, by punishing idle vagabondage, and affording relief to the deserving poor. Mendicancy and vagrancy had increased to a very great extent, owing to certain political events, and these evils were not unassociated with flagrant ruffianism and brutal outrage. That this was evident from the fact that it was found necessary to have stocks in every village for the punishment of "valiant beggars." Thus such enactments as that of 1531 were necessitated not by the mere eleemosynary character of the population, but by the violence to which their needs and wants drove them. By that Act vagrants "whole and mighty in body" caught, begging for the first time might be whipped at the cart-tail, the second time their ears were to be slit, and by the Act of 1535 if caught a third time they were to be put to death. Property was insecure, the development of industry was checked, and the accumulation of capital was disengaged. As a mere question of police an efficient poor law was called for. It was under these circumstances that the 43 Eliz., c. 2, was passed, and an honest endeavour was made to mitigate as far as possible the evils which existed; it had two objects—first, it provided for the methodical relief of the sick or disabled where that burden properly falls upon the State; and secondly, for the employment of those bodily poor persons who are, through the consequences of circumstances, unable to find work for themselves, and who under such circumstances are only too apt to pass from the pauper into the criminal class. Mr. Brown very justly regards the statute as having been crowned with success.

After explaining that a Government should secure the equality of taxation, which is in reality equality of sacrifice, equality of sacrifice being in direct relation to the ability of the person taxed to contribute to the impost, whence it came that the statute in question provided that the raising of sums of money for the relief of the poor in each parish should be in relation to the ability of the person assessed, Mr. Brown remarks that it is not to be doubted that corporations and companies as they at present exist in this country are, in so far as ability is concerned, in a position to be taxed to the relief of the poor. More and more in modern times have men discovered the strength of the union, and the increased capacity of wealth in aggregation—have discovered that while you increase the money in arithmetical relation you increase their power in geometrical progression. The truth of this proposition is amply proved by the facts of co-operation of combination and of company undertakings, of which we have had experience in recent times. No age has seen so much united action in relation to commercial and industrial enterprise, and no period has had such huge bankers' balances. We have only to look at the railways in this country to get some idea of the gigantic proportions of combined enterprise and of the vast influence which is exercised by the united money of many when used as the purse of one. There is very little is meagre, and too feeble to compete efficiently with companies' resources. So great and so powerful have some of these corporations become through this strong union and community of purpose that Government has had to interfere with a view to the regulation of them, and to securing the benefits of some wise restraint over companies which have a tendency to become too arbitrary, and to lose sight to some extent of the interest of the public, of which Government is the trustee.

But although companies are bound to contribute to the relief of the poor, Mr. Brown has to point out the difficulties which arise in the rating of companies, and the cause of these difficulties. Having dealt with the general question of ratable value, he treats in separate chapters of railway rating, canal rating, the rating of waterworks, gas companies and the rating of their property and works, the rating of docks and harbours, of mines and quarries, and of bridges, cemetery companies and the rating of their property, the rating of ferries and wayleaves, and the rating of tramways. In the chapter on the rating of mines and quarries in the occupation of companies there is an outline of the law as it stood before the recent statute which will be of considerable practical value when future cases are under consideration. The new Act provides for the rateability of mines, and also for the valuation of these properties. The seventh section enacts that "where a tin, lead, or copper mine is occupied under a lease or leases granted without fine or reservation wholly or partly of dues or rent, the gross value of the mine shall be taken to be the annual amount of the whole of the dues payable in respect of the year ending Dec. 31 preceding the date at which the valuation list is made, in addition to the annual amount of any fixed rent reserved for the same which may not be paid or satisfied by such dues." The rateable annual value of such mine shall be the same as the gross value thereof, except that where the person receiving the rent is liable for repairs, insurance, or other expenses necessary to maintain the mine in a state to command the annual amount of dues or rent the average annual cost of the expenses for which he is liable shall be deducted from the gross value for the purpose of calculating the rateable value." Where the mine is occupied under a lease granted wholly or partly on a fine, where the mine is occupied and worked by the owner, and in case of any mine not excepted from the Act, and to which the foregoing provisions do not apply, "the gross and rateable annual value of the mine shall be taken to be the annual amount of dues or rent at which the mine might reasonably be expected to let, without fine, on a lease of the ordinary duration, according to the usage of the country, if the tenant undertook to pay all tenant's rates and taxes and tithe rent charge, and also the repairs, insurance, and other expenses necessary to maintain the mine in a state to command such annual amount of dues, or dues and rent."

Throughout the volume Mr. Brown has been particularly explicit,

and his arguments appear to be very free from bias, which is a great deal to say with regard to a treatise upon a subject upon which very decided and directly antagonistic views are too frequently maintained. He has produced a work which, although sufficiently popular to be used as a guide by public company officials and parochial authorities entrusted with the rating of property of the class treated of, has the merit of being so accurate technically that it will be of the utmost utility to the profession.

PYROLOGY, OR FIRE CHEMISTRY.

Although Major Ross's really elegant and beautifully printed volume* bears this unassuming title, it is in truth an elaborate treatise on Psychological Lithogeognosia, and cannot fail to be highly appreciated by all who are wise enough to accept as an axiom the Major's pithy statement, that "the fact is 'pure,' logical, and mathematical abstractions, however precise and exact they may seem, lead us to nothing; or, what is worse than nothing, 'unthinkable' results and religious scepticism. It may be fairly said of 'pure' mathematicians and metaphysicians—to paraphrase an old saw—"Small doubts breed greater doubts, and greater doubts to frighten them; these doubts bring greater doubts, and so *ad infinitum*." But it must not be supposed that Major Ross ignores important truths, for he states that the practice of the arts when pursued with sufficient intelligence has often supplied us with new trains of ideas from which distinct branches of science have also sprung; and in this connection he mentions the curious fact that the recently re-discovered process of toughening glass by simply annealing it from red heat in oil was anticipated by a century and a half. "Stephen Hale," describes a precisely similar process in "Vegetable Statics," London, 1727, p. 185. "Science, he says, is theoretical art, art practical science, and the attempt to separate these two, and to inculcate what is called 'pure science' (so called, he presumes, on account of its barrenness), which seems as common to day as in the time of Socrates and Plato, can be proved to have the most disastrous effects, for the commonest arts, even when practised by ignorant and unobserving people, often give rise to philosophical questions which mathematics or metaphysics alone are hopelessly helpless to answer.

Yet that Major Ross is well acquainted with mathematics is obvious, for he remarks that so far as mathematics cannot be denied to be a medium of the transmission of thought from one mind to another to such an extent that they may be assumed to be essentially a language; although one of symbols, just as a speech may be stenographically expressed, he considers that the essential part of the science is undeniably algebra, or the use of algebraical signs, symbols, and mode of reasoning, and that the algebraical mode of reasoning requires chiefly dexterity in manipulation on the part of the operator, and the most absolute attention (which is only another name for memory), to technical data and first obtained results. It may be termed, he thinks, a slight of mind—a kind of mental conjuring—rather than a medium of employment for the whole intellectual capacity. He tells us, too, that "if a single term be mis-transposed, or a co-adjacent misapplied, an utter smash of reasoning is the result, and his work becomes a mere mass of gibberish." Entertaining these views of mathematics, it is not surprising to find that he remarks that it is difficult to understand how under such conditions the study of mathematics can be, as it is universally adduced, the best means of strengthening the mind. We are living, to use the Major's expression, in "the age of thought-priggings," and if the number of thoughts enunciated created danger he would certainly be liable to be piffler, but it may be hoped that the value of those thoughts would secure him ample protection. Major Ross is evidently a deep thinker, for in the time which has elapsed since the work went to press he has thought of matters which have been too carelessly omitted from its pages. For instance, that aluminium, which he has found fusible (or rather to droop as the gunners call it) before the pyrolyne in the inverse proportion to its bulk, would thus form an excellent pyrometer, as it will no doubt, from its extreme lightness, be most useful in the quantitative determination of the sublimates; that the beautiful orange-red light which can obtain from lime without decreasing the weight of this could, probably, be cheaply made permanent, and at the same time splendidly luminous, by simply placing the fragment of lime in an electric arc synchronously with its emission; that a charming violet or lake pigment is obtained by simply heating before the pyrolyne (a term which the author regards as equivalent to blowpipe) cobalt oxide in about 10 times its weight of boric acid, extracting the violet ball formed with boiling water and grinding it to fine powder; that glass could probably be coloured with a violet tint superior in beauty to that of the purple of Cassius by fusing silica with cobalt protoxide and a very small proportion of soda or potash in the flame of an oxyhydrogen blowpipe; that tin fused on aluminium plate and suddenly quenched with cold water becomes as tough as zinc, while it retains its malleability and beautiful whiteness, &c. He is so sanguine as to hope, in fact, that there is matter in his book for 20 patents, and had he lived under any other than the English Patent Law, which recognises unprincipled improvements rather than original inventions, he would, in justice to his own family, have patented many of them.

The work itself is an elaborate treatise on blowpipe analysis and various cognate subjects, and contains many most curious and interesting statements. Major Ross explains that the analysis and synthesis of things is, next to religion, the most important subject which can occupy the human mind. It is, in fact, the investigation of material truth with such aids as the Great Creator has vouchsafed us. It is not necessary in order to stimulate the peculiar action of the brain required for this purpose that the subject of analysis should be material. Precisely the same operations of the mind are necessary to analyse a murder or a miracle as a mineral; a military adversary's plan of campaign, as a calcareous silt; only in the first or in corporeal cases the analyst and synthesist generally has some recognised facts as clues upon which to proceed; in the second, no fact is given beyond the existence of a material compound substance. The general, the detective, or logician deduces probabilities from facts; the chemist, the spectroscopist, the physicist or the pyrologist has first to elicit facts (which he calls reactions), from which also probabilities are concluded. The advantage thus, although at first sight the contrary is apparent, is on the side of the analyser of incorporeal cases, for he has facts ready made, whereas the other in producing his facts by means of reagents is liable to be led into a thousand errors or supposititious facts, and finally to make such erroneous conclusions from untenable facts as will lead him more astray than if those facts had been primarily absent. In his treatment of the subject Major Ross has introduced several new symbols which are valuable in facilitating abbreviation, and claims new acceptation for words previously in common use with other meanings. *Essay*, for instance, means a qualitative or indicating examination; whilst *assay* means a quantitative or determining examination; crystallization, the crystallisation of substances cooling from fusion by the direct application of fire; a bead, the largest, and a glass, the smallest amount of flux fusible on a platinum wire ring of given diameter; pyrocone, a flame of conical shape; pyrochrome, a non-luminous flame tinged with colour; and pyrolyne, a blowpipe. In the same way HB combined, with three oxygen-dots used for fused boric acid; H.P. combined, with five oxygen-dots fused phosphoric acid; H.P., O.P., P.P., and E.P. the hydrocarbonous, oxyhydrogen, peroxidising, and elychnine pyrocones respectively.

Among the novelties which Major Ross describes is a spectrum lorgnette, or pair of spectacles, which he has devised, and which fits the head like spectacles, so that the operator can, synchronously, note the spectra of pyrocones or pyrochromes while he is producing them. The barrels or spectacles are made of blackened brass and looped together by two padded bridges of brass, one of which fits on the nose; there are the usual arms for holding the spectacles to the head, the ends being connected with a piece of elastic. With reference to the aluminium plate and spoon, he states that they are quite indispensable, the first is used as a tray under the lamp or candle, and has the advantage over iron or other substances that the red-hot bead when dropped upon it is cooled so rapidly that it solidifies before it has time to adhere or attach to the surface of the metal, and can consequently be instantaneously taken up unadulterated and unaltered upon the red-hot platinum ring. Sheet zinc highly burnished answers the purpose well, but not so well. Aluminium as a support should consist of a rectangular strip of plate not less than 4 in. by 2 in., and about 1-32 of an inch thick, half an inch of the lower end of which should be turned up on a table at an angle of 80° as a lip or rest for the substance, and a space of $\frac{1}{2}$ in. both above and below the angle burnished bright with the handle of a small ivory paper-knife rubbed smartly over it with a drop of water, or better of sweet oil. Such a piece of aluminium was purchased by Messrs. Johnsons and Matthey for 1*l.* (although another firm demanded 3*s.*) more than a year since, upon which he has fused arsenates, arsenides, sulphides, antimonides, thallium, gold and silver alloys, &c., and it is as good now as the day he got it, so that the economy of this support, even as compared with charcoal, will not be doubted. He made a spoon out of a piece of aluminium wire 6*in.* long, and about 1-10th of an inch diameter (also purchased for a shilling) by first hammering out the ends, and then punching shallow cavities in them.

The Pyroqualitative Indicating Chart will be found of considerable value to those following Major Ross's system of determination; and he satisfactorily shows that the many vacant spaces are really an improvement upon the usual method of constant repetition followed in other blowpipe tables. He gives 14 columns instead of five or six, as usual; but he points out that in the five columns an account of the same or extremely similar reactions (boric, microcosmic salt, &c., of different substances), is repeated so often that those utterly cease to be characteristic, or to afford any really useful indication of the oxide sought. In his table, on the contrary, what is called the behaviour (or what are, in fact, uncharacteristic reactions) is not given simply because it is the behaviour of the oxide under different treatment; a really enormous element of confusion and inutility is thus evidently eliminated from the tabular view, while the alphabetical arrangement which he has adopted will be recognised as necessary for a tabular composition intended for rapid reference. As an instance, he refers to the detection of potash. He remarks that Platner says "it colours the point of the blue flame violet," but adds "a very small trace of soda hinders this reaction," and this is all! In Major Ross's table there are given five extremely characteristic and quite different reactions for potash, any one of which, therefore, may be made confirmatory of another. But, he continues, it may be said that potash is an unfair oxide to select, as there were no really trustworthy tests for it; let us, therefore, select nickel, usually supposed one of the easiest oxides detectable by the blowpipe. After hunting out the name by mere force of turning over pages, we perceive that the only indication given of this oxide is the "reddish-yellow" colour it affords in both the fluxes used—a test utterly useless in the presence of cobalt, copper, and many other oxides—and its reduction to a metallic magnetic state, which, though but a vague characteristic, is four times repeated. By Major Ross's table nickel oxide is at once detected in presence of anything by the reactions with boric acid; in the oxyhydrogen flame it gives green fragments, and in the hydrocarbonous pyrocone it gives metallic fragments, while two other confirmatory are given.

The mass of really valuable information given in the volume is enormous, and although it is so intermingled with statements of the most curious character, and which appear to have but little connection with the subject, it will not be difficult for those who understand blow-pipe analysis to separate the wheat from the straw.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

SHIRLAND COLLIERIES COMPANY (Limited).—Capital 150,000/-, in 5/- shares. To acquire the East and West Shirland Collieries, Derbyshire. The first seven subscribers are—A. J. Mundella, M. P., The Park, Nottingham; Alexander Macdonald, M. P., Well Hall, Hamilton, Lanark; Thomas Moore, Ashdell Grove, Sheffield, brewer; J. Holmes, Holmville, near Leeds, draper; W. J. Clegg, 22, Victoria-road, Broomhall Park, Sheffield, solicitor; D. Moulson, Swinton Common, near Rotherham; S. Broadhead, Church street, Kilnhurst, near Rotherham. The directors will be Messrs. A. J. Mundella, M. P., A. Macdonald, W. J. Moore, John Holmes, W. J. Clegg, D. Moulson, S. Broadhead, J. Normansel, and P. Casey, the qualification being the holding of shares or stock to the value of 50/- The office of the company will be at 19, Regent street, Barnsley.

GREAT WYRLEY COLLIERY COMPANY (Limited).—Capital 100,000/-, in 100/- shares. To carry on mining operations at Great Wyrely, Stafford. The subscribers (who take one share each) are—Thomas Bantock, Meredale House, Wolverhampton, coalmaster; B. B. Bantock, The Fernery, Wolverhampton, carrier's agent; Bernard Gilpin, Longford, Cannock, coalmaster; J. P. Gardner, Cannock, solicitor; D. W. Munro, Churchill, Cannock, colliery manager; Thomas McGhie, Cannock, mining engineer; and J. Moxon, Rugeley, gentleman. The qualification for director is the holding of shares to the extent of 1000/- The directors are not yet appointed, but the subscribers will act for the present.

MORRIS AND SHAW (Limited).—Capital 160,000/-, in 100/- shares. To acquire the Birch Coppice Colliery, in the county of Warwick, and other property, as well as the business of Messrs. Arthur Morris and John Shaw, colliery proprietors. The price to be paid for the property is 150,000/-, of which 50,000/- will be paid in debentures. The subscribers (who take one share each) are—Thomas Atkin, the elder, Grendon, near Atherton, farmer; Thomas Atkin, the younger, Grendon, Warwick, miller; C. Bladon, Warwick, coal merchant; C. Heywood, Wilmecote, miller; S. J. G. Mallaby, Grendon, miller; Arthur Morris, Tamworth, colliery proprietor; and J. Shaw, Church street, Tamworth. Mr. Arthur Morris will be managing director at an annual salary of 700/-

HAREHOPE GILL MINING COMPANY (Limited).—Capital 10,000/-, in 1/- shares. To work for lead ore under land at Harehope Gill, in the parish of Muggleswick, Durham, comprised in a tract not granted by the Ecclesiastical Commissioners of England. The subscribers are—H. Wilson, South Shields, timber merchant, 2500/-; Thomas Ridley, Newcastle-on-Tyne, merchant, 1800/-; H. Clapham, Newcastle, merchant, 50/-; J. Macnay Remington, Newcastle, manufacturer, 100/-; S. Leybourne, Blackhill, Durham, accountant, 2450/- The directors are Messrs. H. Wilson, T. Ridley, J. Howard, T. Armstrong, Walter Smith, and J. M. Remington, the qualification being 100 shares.

CIVIL SERVICE MUTUAL CO-OPERATIVE SOCIETY (Limited).—Capital 100,000/-, in 2/- shares. To carry on the business of a co-operative society. The subscribers (who take five shares each) are—H. C. Lawrence, 39, Lombard-street; C. Harrington, 2, Queen-street-place; T. G. Wiles, 8, Walmsley-street, Walworth-road; W. H. Lund, 4, Queen's Buildings, Queen Victoria-street; W. Turner, 48, Upper Thames-street; J. McArthur, 1, Old North-street; B. M. Woollan, 62, Cornhill.

WIESBADEN TRAMWAYS COMPANY (Limited).—Capital 100,000/-, in 100/- shares. To construct tramways at Wiesbaden. The subscribers (who take five shares each) are—W. J. Valentine, 173, Fenchurch-street; E. Bishop, Rivenhurst Centre, Park, Norwood; W. F. Tippin, Brasted Park, Sevenoaks; Alfred Allen, 61, King William street; W. Tipping, Brasted Park; W. B. Valentine, the Chalet, Bulwich; A. Jones, Brussels.

SURREY GARDENS (Limited).—Capital 20,000/-, in 2/- shares. To acquire the Surrey Gardens.

ST. BRIDES WELSH SLATE AND SLAB COMPANY (Limited).—Capital 50,000/-, in 2/- shares. To acquire the lease of slate and stone quarries under land known as Tywyn Liwyd, in the parish of Llanilar, Pemroke, and also quarries under lands called Barry Island, in the same parish and county, &c. The subscribers are—Edwin Lee-Bellasyse, Ruabon, civil engineer, 5/-; E. Williams, 9, Lansdowne-road, Lee, wine merchant, 5/-; W. Elford, 23, Bircham-lane, wine merchant's clerk, 5/-; J. C. Holden, 1, Warwicks-road, Kensington, coal merchant, 5/-; Allen Thomas, Oxford Gardens, Notting Hill, engineer, 5/-; P. T. Bingley, 31, Walbrook, mining agent, 5/-; B. J. Cunningham, 9, Austerlins, 5/- shares. The directors are—F. W. Ranken, Northwick Lodge, Clifton; E. Lee-Bellasyse; E. Williams; J. Davies, Blain Marlais House, Pembroke; H. Cox, Cliftonville; James Stewart, Leadenhall-street, and Thomas Parley, Marques road, Canbury. The qualification is 50 shares, and the remuneration is to be 10 per cent. upon the net profits after paying 10 per cent. to the shareholders.

ORRELL COAL AND CANNEL COMPANY (Limited).—Capital 200,000/-, in 100/- shares. To acquire the Orrell Collieries situated at Pemerton and Orrell, near Wigan, together with everything in connection with them, including the contracts, book debts, &c., of the former proprietor. According to the terms of the agreement made between W. Braecker, W. H. Braecker, and H. B. Whitburn, the price to be paid is 100,000/- The subscribers (who take one share each) are William Braecker, Elstock Hall, Denbigh, colliery proprietor; W. H. Braecker, Bispham Hall, near Wigan, colliery proprietor; J. Braecker, Greenbank, Wavertree, broker; J. Hargreaves, Broad Oak, Acoftington, gentleman; J. C. Godfrey, Hamburg; Richard Braecker, 1, Cavendish-terrace, Liverpool, merchant; W. H. Harbottle, Orrell, near Wigan, mining engineer; and E. Morgan, Wavertree, coal agent. The qualification for a director is the holding of shares or stock to the value of 3000/- The subscribers will be provisional directors.

ANGLESEA (PENMON) MARBLE QUARRIES COMPANY (Limited).—Capital 50,000/-, in 5/- shares. To work and develop the Anglesea (Penmon) Marble Quarries at Penmon. The subscribers (who take one share each) are—F. A. Rogers, 26, Bishopton street, advertising agent; F. Darlin, 37, Great Tower-street, wharfinger; C. Townsend Hook, Kent, paper maker; B. Williams, Aston Villas, Forest Hill, no occupation; J. H. Macnaughton, 6, Heyborn Villas, Tottenham, no occupation; S. P. Clark, 9, Rood-lane; J. R. Banner, 146, Finsborough-road; S. Kensington, colonial broker. The qualification for a director is 40 shares. The subscribers will not act as directors for the present.

IMPERIAL CIGAR COMPANY (Limited).—Capital 30,000/-, in 1/- shares. To acquire the business of the late firm of Gifford, Stover, and Co., and Mr. Fishwick, of Liverpool. The subscribers are F. A. Middleton, 82, Dale-street, Liverpool, 100/-; H. S. Stover, Hartington-street, Liverpool, 50/-; Stover, 16, Commercial-street, London, 10/-; H. P. Stover, Liverpool, 1/-; E. Downes Eccles, Clapton Park, Birkenhead, 150/-; H. W. Hamlyn, Liverpool, 1/-; A. Bowtell, Dale-street, Liverpool, 5/-.

VICTORIA IRON WORKS (Limited).—Capital 2000/-, in 1/- shares. To manufacture and sell sewing machines, &c.

oil and STEARINE COMPANY (Limited).—Capital 25,000/-, in 10/- shares. This appears to be a reconstruction of the Patent Oil and Stearine Company (Limited).

TROWBRIDGE GEORGE HOTEL COMPANY (Limited).—Capital 10,000/-, in 10/- shares. To acquire the George Hotel, Trowbridge.

MITCHELL AND COMPANY (Limited).—Capital 10,000/-, in 10/- shares. To acquire a spindle and flyer maker's business at Bury.

JAMES E. WORSLEY AND COMPANY (Limited).—Capital 20,000/-, in 5/- shares. This is a Lancashire cotton spinning company.

WONDERFUL RETENTION OF HEAT.—On Oct. 30 the large new air shaft of the Belcher Mine, then completed to the 1000-ft. level, took fire and was destroyed. The timber of the shaft all burned out and the rock fell in and blocked it up. After mature deliberation it was thought that it would be better and cheaper to sink a new shaft than to try to clear out the old one, so badly were its sides caved and so great was the quantity of rock that had fallen into it. The new shaft was sunk a short distance to the west of the old one. It has now reached a point near the 1000-ft. level, where it will be continued down an incline. The incline was started at the 1000-ft. level, and carried up to meet the vertical portion of the shaft. The course of this incline carried it through the remains of the old vertical shaft, but as soon as it was tapped the men found that they could do nothing in it on account of the ashes, burnt earth, and rocks that poured down into the incline. A tunnel was then run until it had reached a point a short distance west of the old shaft, when a vertical upraise was made to the line of the proposed incline to be run up to meet the new shaft. The men then began to work down on the incline in order to reach the point from which they were driven in trying to come up. They have succeeded in getting into the old shaft, where, much to their surprise, they found the rock still red-hot. In trying to put in timbers they were set on fire, and in order to work at all it is found necessary to bring a line of hose into the place and play a stream of water upon the rocks wedged in the bottom of the old shaft. There is no timber on fire among the rocks. They seem to have been heated to a degree so intense at the time of the fire that they have remained red-hot ever since. When we find so small a mass of rocks as can be contained in the bottom of a shaft remaining hot for over five months, after having been heated to whiteness, should we be incredulous on being assured by scientists that the centre of the earth, once a molten mass of rock, still remains in a molten state after untold ages? Nearly three years after the great fire in the Yellow Jacket Mine places were found in the lower levels where the rock was still red-hot—*Virginia Enterprise*.

IMPROVED SLATE CUTTING MACHINE.—By the invention of Mr. T. W. Parry, of Danielsville, Pa., a wing piece projects from the front, on a level with the top of the frame, in which are notches for receiving the back edges of the pieces of slate, and squaring the same against the flange. The cutter plate is fastened to the top of the frame. The knife is attached to the end of a lever so as to cut with the cutter plate like a shears, and is composed partly of steel and partly of cast-iron. A stand from the sill pieces of the frame is forked at its upper end to receive the cutting lever. The machine is operated by means of treadles connected with the lever at different points. The operator holds the piece of slate over the cutter plate, with its back edge resting in one of the notches, according to its width, and its straight side against the flange, which is at right angles with the cutter plate.

A VALUABLE EXPLOSIVE.—In this year's report from the Commissioners of Public Works in Ireland special mention is made of various drainage and other works. On the estate of Mr. Philip Doyne, in County Donegal, owing to the number and size of the boulders scattered over and in the soil, all efforts to operate on them were in vain until dynamite was used, and then the success was marvellous. The Inspector, Mr. E. Murphy, says:—"It is perfectly wonderful what execution 2 ozs. of dynamite put in a 6-in. hole in a large sunk boulder can do. For surface boulders a couple of charges placed on the top of the stone and covered or weighted by another boulder will break both up, the only difficulty (as Mr. Doyne remarked) being 'that you cannot find the pieces.' Mr. Doyne has also used dynamite in the removal of old roots of trees, and it splits them up into firewood."

HOLLOWAY'S PILLS AND OINTMENT.—In those diseases which are constitutional in their origin or chronic in their character these remedies will be found most useful; in fact, it is almost impossible to over estimate the power which these twin remedies exert over all maladies which depend on the blood, being in a state of contamination from any cause whatever. All manner of skin diseases from superficial sores to deep ulcerations will be found to yield to the curative powers of this ointment; it assuages pain, cleanses wounds, and works out a sound and lasting cure quicker than any known remedy. No one need despair of being cured, however deep seated the disease, until they have given these remedies a trial.

THE MINING JOURNAL.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, July 14: We have finished timbering the rise, stop, and intermediate level, which I believe to be secure. The men are now putting timber in the No. 2 adit level and footway winze from No. 2 to No. 1 adit level; to make these places secure. When they finish this I will put them to stop the bottom of No. 1 adit level and put in air-solars to the present end, and at once resume the driving of this level east. To stop the roof of No. 1 adit level, by four men, at 5/- ss. per cubic fathom for the month. The lode in the stop is worth 20/- per fathom for lead ore.

BEDFORD CONSOLS.—G. Rowe, J. Mitchell, July 13: The part of the lode carried in the 67, east of the sump-winze, is 5 ft. wide, showing a kindly appearance, yielding capel, spar, muriac, and ore. The lode in the back of the shallow adit level is producing arsenical muriac to the value of 10/- per fathom. The lode in the stopes in the bottom of the shallow level, east of the air-shaft, is worth 10/- per fathom.

BEDFORD UNITED.—Wm. Phillips, July 14: There is very little change to note to day. The mine continues to look well. A full and favourable report will be given in the early part of next week for the general meeting.

BOWDEN HILL.—J. Goldsworthy, July 12: The water increases almost every foot we drive. This is a most encouraging feature. If the level be continued there is from all appearance a great prize before us in reaching the lodes in advance. The air pipes act exceedingly well, and afford us excellent ventilation. The total distance driven is about 102 fms.

BIRONFLOYD.—July 15: There is no change to notice in any of the bargains on the north lode. The middle lode, in the 52 west, is worth 1 ton of lead ore per fathom. We are not quite through the middle lode in the 40, but the lode as far as proved is worth about 1/2 ton per cubic fathom. We yesterday cut into the 40, east of the sump-winze here, lined with spar and cubes of ore. We have sold to-day 25 tons of silver-lead ore, to Trefry's Estate, at 16/- ss. 6d. per ton.

CARROLL.—J. Jennings, July 13: We have finished cutting the cistern-plat, and have sunk Doctor's engine shaft 5 ft. below the 11. The sumpins are now cutting bearer-holes for the bearers of the cistern, and shall fix cistern and standing-lift without delay. The lode in the shaft is 2 1/2 ft. wide. There is no change in its character since my last. The lode in the 11, west of shaft, is 2 ft. wide, producing good stones of lead, and letting out more water than usual. In the 11 cross-cut south (east of shaft) we have cut through the main or south part of the lode, which is 18 in. wide, and producing a small branch of lead, with prian and quartz. I have set to drive east on it from the cross-cut. In the 11, east of shaft, the lode is 2 1/2 ft. wide, unproductive. I have put these men to draw out the water from a winze in the adit, 12 fms. east of Bowyer's shaft on the south part, and have succeeded in doing so, but the water is rather quick. The winze is 4 fms. deep, and we are now clearing up the stuff. It is said when last wrought on it would produce 1/2 ton of lead per fathom. I shall be able to say more of this lode in my next issue if we can keep the water out.

CAHEDRAL.—Joseph Michell, July 15: The engine-shaft men are engaged in cutting cistern plat and fixing plunger-lift at the 20, consequently nothing has been done in the bottom of the shaft since my last advice, nor will there be for the next fortnight, as it will take all that time to complete the work that I have set them to do. In the 30 end west the lode is 2 1/2 ft. wide, worth 20/- per fathom. In the winze sinking in bottom of the 30, west of engine-shaft, the lode is between 3 and 4 ft. wide, worth 20/- per fathom. The winze sinking in bottom of the 30, east of engine-shaft, is 2 1/2 ft. wide, unproductive. I have put these men to draw out the water from a winze in the adit, 12 fms. east of Bowyer's shaft on the south part, and have succeeded in doing so, but the water is rather quick. The winze is 4 fms. deep, and we are now clearing up the stuff. It is said when last wrought on it would produce 1/2 ton of lead per fathom. I shall be able to say more of this lode in my next issue if we can keep the water out.

CHENYER AND WHEAL ABRAHAM UNITED.—Wm. Thomas, S. Arthur, July 14: Sturt's Engine-Shaft: In the 228 fathoms level, driving west, the lode is 2 ft. wide, yielding 1 ton of copper ore per fathom. St. George's Shaft: In the 215 fms. level, driving west, the lode is 3 1/2 ft. wide, producing 2 tons of copper ore per fathom. In the 215 fms. level, driving east on the south lode, and west of the shaft, the lode is 1 1/2 ft. wide, yielding copper ore to dress. In the 203 fms. level, driving east on the south lode, the lode is 1 1/2 ft. wide, producing 1 ton of copper ore per fathom. In the winze sinking below the 203 fms. level, the lode is 2 ft. wide, yielding 1 1/2 ton of copper ore per fathom. Woolf's Shaft: In the 220 fms. level, driving east, the lode is 4 1/2 ft. wide, producing 2 tons of copper ore per fathom. Blewitt's Shaft: In the 234 driving west the lode is 5 ft. wide, yielding occasionally stones of copper ore having a kindly appearance. Richard's Shaft: In the 232 driving west the lode is 6 ft. wide, producing 5 tons of copper ore per fathom. In the 210 driving west the lode is 4 1/2 ft. wide, yielding copper ore to dress. We anticipate an improvement here shortly. We are busily engaged in preparing the copper ore for the next sampling, which is on Tuesday next.

CWM ELAN.—W. Goldsworthy, July 10: There has been a few days delay in sinking the engine-shaft this week, in consequence of waiting for a pump pipe from the foundry to complete the bottom lift of pumps which came here on Thursday last; sinking was resumed on that day. During the stoppage of the shaft the men have been sinking the winze under the 10 west. The new stopes of the 20, east of cross-course, will produce 15 cwt. of lead ore per fathom. The lode in the 20, west of cross-course, is still improving, worth at present 6 cwt. of lead ore per fathom. No change to note in other parts of the mine. I have sent you sample of parcel of lead ore now for sale, and hope you have received it safely.

DE BROKE.—T. Hodge and Son, July 13: To sink Wilson's shaft 12 ft. below the 25, e. t. tip-plat, &c., for 10/-, by nine men. Daniel's winze is below the adit level about 8 1/2 fms.; the lode in the bottom is looking very well, yielding good lumps of ore, worth from 8/- to 10/- per fathom. We are obliged to suspend this winze on account of the water. When Wilson's shaftmen get a little out of the way we intend to start a cross-cut to go out under said winze in the 25, which we will then drive to the 20, west of the adit level, east of No. 2 shaft, about 10 ft.; the lode is 4 ft. wide, worth 20/- per fathom. To stop the back of the 25, west of the junction, by six men, at 5/- per fathom; worth for lead 18/- per fathom. All surface work, dressing, &c., are going regularly. We sampled on Friday last 12 tons of lead, for sale on the 20th inst., and we are in a fair way of dressing for another lot.

DE WROPE.—T. Hodge and Son, July 13: To sink Wilson's shaft 12 ft. below the 25, e. t. tip-plat, &c., for 10/-, by nine men. Daniel's winze is below the adit level about 8 1/2 fms.; the lode in the bottom is looking very well, yielding good lumps of ore, worth from 8/- to 10/- per fathom. We are obliged to suspend this winze on account of the water. When Wilson's shaftmen get a little out of the way we intend to start a cross-cut to go out under said winze in the 25, which we will then drive to the 20, west of the adit level, east of No. 2 shaft, about 10 ft.; the lode is 4 ft. wide, worth 20/- per fathom. To stop the back of the 25, west of the junction, by six men, at 5/- per fathom; worth for lead 18/- per fathom. All surface work, dressing, &c., are going regularly. We sampled on Friday last 12 tons of lead, for sale on the 20th inst., and we are in a fair way of dressing for another lot.

DEVON GREAT CONSOLS.—July 16: There is nothing new to report this week. The valuations of the different workings continue the same as last reported.

DUCHY GREAT CONSOLS.—James Richards, July 3: South Maria: In the 70 fms. level, west of the engine-shaft, driving is continued by the side of the lode; progress, however, is at present slow, owing to the ground having become very troublesome for exploring.—Latchley Consols: Engine-Shaft: The 80, west and east of Ellis's winze, has also been continued by the side of the lode, and the ground proving more favourable to this point a distance of 5 fms. 3 ft. has been driven, and the ground in the present end admits of the same rate of driving. In the stop in the back of the 60 west, east of Ellis's winze, 4 1/2 fms. have been stopped, the lode proving worth 4 tons of ore and muriac per fathom. This stop is suspended, and the men are put to rise in the back thereof, over Ellis's winze, to meet the new haulage shaft. The rise is up 4 fms., the ground at present proving rather hard. The stop in the bottom of the 50 west, and west of Heep's winze, is suspended, and the lode not continuing good. A pitch is being worked in the bottom of the 40 west, and west of Heep's winze, at 17/- per ton, in which the lode is worth 4 tons of ore and muriac, and 10/- per fathom. A pitch is being worked in the bottom of the 20 west, east of the cross-course

500 fms. In the 25 north they are also driving by the side of the lode; desuing the lode will be continued for another week in these three above-mentioned places, when it will be taken down and reported on as to appearance and value. The lode in the 25 south is not of any value. The tribute pitches are looking well, and yielding their usual quantity of lead.

NEW HENDRA.—Wm. Rowe, R. King, July 10: Since the last meeting our operations have been solely directed towards the driving of the deep adit level, and we have to report our having made fair progress therein, especially during the last two months, the ground having taken a favourable change, being easier for driving, and at the same time more congenial for minerals. In the course of our explorations we have frequently met with the most encouraging indications, and have broken some rich stones of copper ore in the adit end on the east and west lode within the last few weeks, strengthening our hopes that we shall ere long have some important discoveries to communicate to you. The nearer we get towards the point we are driving at the more mineralised we find the ground becomes, and the probabilities seem strongly in favour of our meeting with mineralisation—the lodes in advance of us, whose value has been proved by the necessarily shallow operations of former workers. Our adit level would intersect these lodes at a greater depth than they have hitherto seen, and we could work them efficiently in a very inexpensive manner. We have done already a considerable portion of the work required to prove the sett, and we still recommend the continuation of the present mode of working as being inexpensive, and requiring only patience and perseverance to accomplish the object we have in view. We estimate the cost for the next four months at 35/- per month.

NEW ROSEWARNE.—E. Hosking, W. Bennetts, July 10: The lode in the 61 fm. level, west of Pool's shaft, is 2 ft. wide, and worth 12/- per fm. We like the appearance of this end, as it produces more yellow ore. The lode in the 58, west of Pool's shaft, is not looking quite so well as at the meeting; it is 2½ ft. wide, and worth 8/- per fathom. The ground, however, continues favourable, and as there are branches falling in from the south side, we expect shortly to report that it has again improved.

NORTH HENDRE.—J. Lean, July 14: In the north level we have risen from 7 to 8 yards, and have intersected what we consider to be the top bed, which cuts off the lead-bearing ground; we have directed the men to drive east, where the ground is most favourable for progress, and contains a little ore; we fully expect it to improve as we extend. The lode in No. 1 south level still maintains its value, producing about 2½ tons of ore per fathom; and, judging from the kindly nature of the ground, we may expect further improvement. In No. 2 south level the flat we have been following shows signs of becoming more productive in lead; the character of the ground is exceedingly encouraging, composed of spar, sandstone, and a little clay, containing solid lumps of ore. The flat in No. 2 west level does not turn out so well as we expected, we having intersected a cross-joint, which has discovered the ground, and cut out all the ore. The stopes working at the junction of No. 1 east level produce about 1½ ton of ore per fathom. No change to notes at any other point, surface work going on satisfactorily.

NORTH POOL.—W. C. Vivian, F. Clymo, July 15: The appearances in the 40 east continue favourable, the only change since the last report being an increase in the proportion of spathose iron in the leading part of the lode, throughout which there are strings and patches of yellow copper ore.

NORTH PRINCE PATRICK.—J. Jones, July 15: Engine Shaft: The ore ground improves as we drive eastward, especially that on the hanging side of the vein; we had very good sized lumps of lead there this afternoon, and I am daily expecting it to yield ore in large quantities. The air has been very foul here, so that we have been compelled to relieve it by connecting a patent fan with the engine, which when completed will be very beneficial.—Eastern Shaft: The ground is much easier for driving in the level; we have come upon another cross-parting, which greatly assists us, and from all indications I cannot but believe that we must be nearing some favourable change.

NORTH TRESKERBY.—R. Pryor and Son, July 13: The lode in the deep adit level, driving east at cross-cut, is without change to notice since last report. In the 30 cross-cut, driving north of north shaft, the ground is at present letting out much more than we have ever seen coming from this point. This, together with the fact of its being strongly charged with iron, leads us to believe that the lode is very near being intersected. The lode in the stopes in back of the 30 cross-cut, south of Scovier Consols engine-shaft, on the south lode, is worth 15/- per fathom for tin, and there is a good deal of ground at and about this place that will pay well for working. From the Highburrow lode we are breaking good quality tinstuff, and we shall be better able to give its value after we have taken down a part of the lode, which we find to be standing to the south of the old workings. There has been no change for remark throughout the tribute department within the past week.

OLD BOTTLE HILL.—R. Unsworth, July 14: I have stopped the men in the 46, and put them to drive a cross-cut north to cut the main lode. Hooper's pitch, in back of the 38, the lode is 4 ft. wide, worth for mundic 6 tons per fathom. Jones's pitch in back of the 12 is without alteration.

OLD TINCROFT CONSOLS.—J. Pope, July 14: In the 10, west of Diamond shaft, the lode is 15 in. wide, worth 15/- per fathom. In the 30 west the lode is worth 8/- per fathom. We are clearing the engine-shaft as fast as possible, and shall commence building the engine-house on Monday or Tuesday next.

OLD TREBURGETT.—W. Hancock, W. T. Bryant, July 14: The lode in the 70 end south, and end coming towards it from the winze sunk under the 60, still look very well. In the former work about 15/- per fathom, the latter about 20/- per fathom. In the 80 south we think we are very nearly getting out of the disordered ground. In the 90 south we are daily expecting to communicate to the winze. In the same level north the lode has a good appearance, producing a little ore, but not to value yet. In Masey's shaft, sinking below the 20, the lode is about 1 ft. wide, producing occasional stones of ore. Will send you a detailed report next week.

PARYS MOUNTAIN.—T. Mitchell, July 14: We are occasionally meeting with small strings of sulphur in the 90 cross-cut south; the ground continues much the same as for some time past, and fair progress is being made in driving. The winze below the intermediate level is down 7½ fathoms, and we have now put the men to stop the lode, which will yield 5 tons of copper ore and 2 tons of sulphur per fathom. The 65 trial end, driving west of cross-cut, is producing good patches of copper ore; we expect in about 4 or 5 fathoms more driving to meet with a strong cross-joint, and hope in connection with this point to find more copper. I am glad to say some points are looking a little better to day. The stop in the 80, west of cross-course, has considerably improved, the hard chert rock having nearly all disappeared. The driving east of cross-cut is also looking very kindly, and I think we shall have a good lode here shortly. We have just cut into a vug, mixed with quartz and crystals of sulphur, which is a good indication. We have commenced clearing up the precipitation pits.

PATELEY BRIDGE.—Charles Williams, July 14: The vein in the cross-cut in the 10, west from engine-shaft, is from 3 to 4 ft. wide, but poor for lead ore at present. We are putting up a rise in this end, for the double purpose of proving the vein and opening out ground for stoping, and I am glad to say the vein in the rise is 4 ft. wide, yielding from 20 to 25 cwt. of lead ore per fm. I beg to remark that the ground here is of a very easy nature to work, and we shall be able to stop it at about 30 ft. per fathom. The vein going west is being at present nipped, but I have no doubt it will come in again soon, yielding at present cubes of lead ore. In the 20 cross-cut south west to cut Dickson vein the ground is very hard, and letting out water freely. No other change. The cross-cut east, in the same level, to cut Fielding, Sir Thomas, and other veins, is without any change since I last advised you; the men are working with spirit, and fair progress is being made.—Engine Sump: This sump is in regular course of sinking, and is now down 39 ft. under the 20. The ground in the bottom is compact limestone, good for blasting.—Gillfield's Level: We are clearing and securing this level to Garnet and Sun veins as fast as we possibly can.—Pringap: We shall complete clearing this level in the course of a week or ten days.—Blue Riggs: This level is now in regular course of driving. The vein in the end is 6 ft. wide, consisting of limespar, gossan, quartz, and spotted with lead ore—a splendid looking vein. We have three metal bargains working at a tribute of 10s. in 1s. Herewith I beg to enclose cost sheet for the month of June, amounting to 205/- 5s. 1d., payment for which will be due on Wednesday, July 21.

PEDN-AN-DREA UNITED.—William Tregay, William Pridgeaux, John Pope, July 10: Sump: In the 180 west end the lode (Martin's) has improved in appearance, the branches becoming rather larger, and some of them coming together, producing rich stones of tin. In the 150 west end the lode (Martin's) is worth 15/- per fathom. In the 150 west winze the lode (Martin's) is worth 25/- per fathom.

In the 140 west end the lode (Martin's) is worth 10/- per fathom.—Cobblers: In the 120 west end the lode (Martin's) is worth 9/- per fathom.—Cardozo's: In the 100 west end the lode (north) is worth 10/- per fathom. In the 80 west end the lode (north) is worth 10/- per fathom. In the 60 west end the lode (north) is worth 10/- per fathom. In the 55 west end the lode (north) is worth 6/- per fathom.

In the 47 west end the lode (north) is worth 7/- per fathom. In the 30, Davis's copper lode, so as to allow more space for water in case we should want to look to the lode. As soon as we start the cross-cut north we shall soon cut into the Wheal Uny lode, which will probably drain the 50 quite dry, as well as the Clydah Mine. The sinking below the 70 is now being urged on as fast as possible, as well as the sinking the skip-shaft below the 30, at Clydah.

PERSEVERANCE.—Wm. Rich, Wm. Hamby, July 13: We have put down the 18-in. plunger and most of the necessary castings in the 70, but before we connect the plunger we are anxious to sink a few feet below the 70, on Davis's copper lode, so as to allow more space for water in case we should want to look to the lode. As soon as we start the cross-cut north we shall soon cut into the Wheal Uny lode, which will probably drain the 50 quite dry, as well as the Clydah Mine. The sinking below the 70 is now being urged on as fast as possible, as well as the sinking the skip-shaft below the 30, at Clydah.

PLYNNIMON.—John Garland, July 14: Since my report for the general meeting I do not observe any material change in any of our underground operations; everything is being urged on as fast as possible. We still have frequent heavy showers, which maintain our supply of water. Drawing and dressing are progressing satisfactorily. Samples of another 40 tons of lead ore will be issued on Saturday, 17th inst.

PORT NIGEL.—Joel Manley, July 14: There is no change in the character of the lode in the 56 east, but the ground is a little easier for progress. The 56 west is worth 8/- per fathom, and likely to further improve. The 44 east is not looking quite so well, now worth 8/- per fathom for lead ore, with good stones of copper and mudi; I believe this falling off to be only temporary, and will very soon improve again, as the ground and lode are precisely of the same description as they have been for some time past.

The lode in the rise over the 44 has not been taken down this week, when last taken down it was worth 12/- per fathom; I expect to communicate this with the 34 within the coming week, which will ventilate and greatly facilitate the working of this part of the mine. The stopes are yielding fair quantities of lead ore; we have put two jiggers to work, and are now progressing favourably towards our next sampling.

PRINCE OF WALES.—J. Gifford, J. Pryor, July 13: The ground in the 77 is still easy for progress; lode about 1½ ft. wide, composed chiefly of mudi, prian, and quartz, with spots of copper ore intermixed. The tribute department is with us unchanged.

ROMAN GRAVELS.—Arthur Waters, July 15: The two bottom ends, north and south, on Roman vein, are quite up to the value set upon them in last week's report. The 60, south of Corfield's, is improving, and will soon be into a still richer lode. The 65, south of Stoke's winze, has improved a little this week, and it is likely that another big deposit will shortly be met with here. The stopes and other points without change of note since last reported. Our next sampling takes place on the 22nd inst.

ROSEWALL HILL AND RANSOM UNITED.—Wm. Bunghole, John White.

July 15: We are glad to say that the north carbona is further improved since last week, the lode now being 4 ft. wide, and worth 35/- per fathom. The part of this carbona going north-east is not quite so good; now 3 ft. wide, worth 12/- per fathom. Nos. 2 and 3 crossings are now 5 ft. wide, and worth 20/- per fathom. We have no particular change to notice in any of our bargains at Goole Pelias.

SOUTH CARE BREA.—Wm. Rich, J. Knotwell, July 12: The lode at the engine-shaft, sinking below the 164, is worth 12/- per fathom, and the ground easier for sinking than it has been. The lode in the winze west of the shaft, in the 164, is composed of fluor-spar and good stones of copper ore. The 164 end west carries good stones of ore—driving by six men, at 50s. per fathom. The 164 east carries a little tin and copper. In the cross-cut north, below the 150, we find some branches of rich tin. The stop in back of the 150, west of winze, is worth 12/- per fathom.

SOUTH CONDURROW.—W. Rich, W. Williams, H. Abraham, July 14: There is no material alteration in the mine since our report to the general meeting on Wednesday last. We have, however, intersected Fraser's lode in the 30 cross-cut south, which has a very promising appearance, and is worth 8/- per fathom. The ground is easier for driving. We intend to sell a parcel of tin on Saturday next.

SOUTH GREAT WORK.—S. J. Reed, July 15: The Orchard lode in the 45 fm. level, west of flat-road shaft, is 3 ft. wide, and worth 16/- per fathom. This end is nearly under the winze which is being sunk below the 35, and worth 12/- per fm. The back of the level is set at a tribute of 5s. in 1s. In the 35 east there is a desirable change in the lode, and the part we are driving on is 3½ ft. wide, and worth 9/- per fathom. A good length of tin ground has been driven through before this end in the level over, so that we may reasonably expect a continuance of it.

SOUTH ROMAN GRAVELS.—John W. Powning, July 15: Shelfield: The lode below the 30 was completed on Saturday last, and the shaftmen have since crossed the lode 12 ft., and have not met with footwall; the portion of lode proved is made up of carbonate of lime, protoxide of iron, clay, patches of stone, and occasional stones of ore, but not enough of the latter to value. As soon as we have crossed the lode we shall resume sinking engine-shaft with all vigour.

SOUTH TOLCARNE.—J. Vivian and Son, Jas. Paul, July 15: In the engine-shaft the lode is increasing in size, and producing very good samples of tin. In the 30 cross-cut, north from the engine shaft, the rock is easier for driving through than it has been, and we find floors carrying lumps of yellow copper ore and blonde.

SOUTH WARD.—R. Goldsworthy, July 15: Saturday, the 10th inst., being setting-day, the following bargains are set—To drive the 90 fm. level cross-cut east, by six men, at 9/- per fathom; although the ground is harder, it is still congenial for the production of lead ore. To drive the 90 north, by two men, at 11. 15/- per fathom; we hope to reach the junction in about 8 fms. further driving, where we may expect a productive lode. To drive the 72 north, by four men, at 3s. 10s. per fathom; lode 4 ft. wide, composed of spar, prian, mudi, and blonde; a very promising lode. To drive the same level south, by six men, at 6/- per fathom; lode 5 ft. wide, composed of spar, prian, mudi, and spots of lead, but not sufficient to value; judging from its appearance there is every indication for an improvement. To drive the 60 cross-cut east, by four men, at 7/- per fathom. Since last report we have intersected another flannel branch 3 in. wide, with a rapid underlie west; the character of the ground is all that can be desired for the production of lead ore.

ST. AGNES CONSOLS.—J. and W. Vivian, July 15: In the 72 fm. level, driving west of north cross-cut, the lode is 2 ft. wide, very kindly in appearance, producing a little tin. Stope in the back of the 72, lode worth 8/- per fathom for tin. Stope in the back of the 72, lode worth 8/- per fathom for copper ore. No change to notice in the sinking of the engine shaft since last week.

TANKERVILLE.—A. Waters, July 15: The lode in Watson's shaft (now about 4 fms. below the 152 fm. level) continues to widen out as we go down, and the ore is soft, flaky stuff, similar to what we usually get from a big deposit; the present yield of the lode in shaft is 6 tons per cubic fathom. The lode in 152 end west is 5 ft. wide, well charged with lead throughout, and there is every indication to show that we are getting near the big bunch against the hanging wall. The stopes in back of the said level, east and west of the two winzes west of shaft, are yielding ore in large quantities, as of late. The winze below 150 west is going down in a good profitable lode. Other places as for some time past. We have to-day sampled 150 tons of lead, for four weeks, for sale next Thursday.

TRELEIGH WOOD.—E. Hosking, W. Goldsworthy, July 14: Fair progress is being made in sinking the engine-shaft below the 44; the water is easy, and the engine working well. In the 44 east end we are driving on the north part of the lode; the part carrying 5 ft. wide, has a very kindly appearance, and produces lead, blonde, and copper ores, worth for the latter 5/- per fathom; we have not yet driven south in the tin part. The stope in the back of the 44, east of the cross-course, on the copper part, is worth 12/- per fathom. The stop in the back of the 44, east west of Phillips's winze, is worth 15/- per cubic fathom for tin. The stop in the back of the 44, west of the cross-cut from engine-shaft, is worth 14/- per cubic fathom for tin. The lode in the 34, east end and west of ground, is looking very well, and worth 18/- per fathom for tin. All the bargains are being pushed on as fast as possible.

TREVARACK.—J. Pope, July 14: The engine-shaft is 10 fathoms 2 ft. below the 74; lode 18 in. wide, composed of peach, mudi, and iron, with stones of tin. In the 74 west the lode is 3 ft. wide, with 10 in. on the north port, tatty, but not enough to value. In the 74 east no change worthy of notice since last reported; lode 1 ft. wide.

TRELLWYD.—J. Paul, July 15: During the past month the engine-shaft has been sunk 3 fms. 3 ft. There are strong branches of spar, with nice ribs of ore, coming in from the north side, and as we are now 40 fms. deep from surface, and nearly 30 fms. from the adit, and the middle lode underlies towards this shaft, in all probability these branches are coming from that lode, which cannot be far distant. The 20 has been driven 3 fms. 2 ft. during the past month. In this drivage the lode has varied from 1 to 2 ft. 6 in. wide, at times carrying a branch of solid ore 1 inch wide, but at present it is crossed by another hard bar or cross-joint, which has again disordered it, being only from 9 in. to 1 ft. wide, with about ½ in. of solid rib of ore. I do not think this will last long, from present indications. The stope in back of the 20 has not as yet improved as I expected last week, and is worth at present from 12 to 15 cwt. of lead ore per fathom. The lode over the south-west level is 2 ft. 6 in. wide, composed of clay-slate, spar, and lead ore, producing the latter from 15 cwt. to 1 ton of lead ore per fathom. We shall increase the number of hands in the two stopes in a few days. The wet weather is making very much against us in our surface operations. However, under the circumstances we are doing the best we can.

VAN CONSOLS.—Jas. Roach, July 15: I expect we shall commence driving a cross-cut from the main shaft at the 40 to intersect the north or productive part of the lode early next week. Latterly the ground has been more difficult to sink than usual; we have about 2½ ft. more to sink. The rises against Murray's shaft are still being wrought well, and going up rapidly. No alteration in any other department since my last advice.

VERON.—S. Harper, July 10: In the engine shaft sinking below the 100 yard level there is no change worthy of remark since my last report. The same remark applies to the 100 yard level, west of engine-shaft. At the 80 yard level west the ground continues remarkably hard and the lode poor; at the same time, looking at the two or three shoots of ore gone down at the 60 yard level we may justly expect a favourable change in this level soon. The lode in the side of this level, and about 8 or 10 yards from the forebear, is proving very satisfactory, being about 2 ft. wide, 1 ft. of which is very good, and at the west end of the rise is worth about 30 or 40 cwt. to the fathom; the east end contains saving work for lead. I intend opening a yard or two more, and then drive west as an intermediate level, in order to prove the length of this run of ore, we shall draw a good bit of leadstuff from this rise on Monday.—Surface: We have finished the winding and packing of the new engine pool, and shall commence setting up the launders on Monday next. All other things going on as usual. I shall be glad to know if I can set on two men in the bottom of the 80 yard level. I have two good steady miners who have been employed at the engine pool, if not put underground they must be discharged.

WEST GODOLPHIN.—J. Pope, July 14: I have no change to report on in the mine since my last, but will send full report, as usual, for the committee meeting on Tuesday next.

WEST GREAT WORK.—S. J. Reed, July 14: We have discovered the Croft Gotthol lode in 19, which contains rich stones of tin, and as we approach the junction I think further improvement will take place. The No. 2 lode is being driven on west at this level, and the lode in the end is worth 6/- per fathom. We are close to the elvan, where the lodes on the west side were found rich. Plat has been cut and ladder-ways fixed to the bottom of Duke's shaft.

WEST MARIA AND FORTESCUE CONSOLS.—Wm. Skewis, July 15: Willesford's Shaft, West Maria L

the directors in proceeding to an allotment has been commented upon very severely. The result of the new proceedings on the part of the local shareholders will be watched with much interest.

A good deal of business has been done during the week in Pateley Bridge Lead shares. The mines are stated to be looking very promising, and it is expected some excellent results will shortly be attained. The shares are in demand.

The Foreign Share Market has been generally weaker, owing principally to restricted business.

JAMES H. CROFTS.

** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Coal-Cutting Machinery in England and America (William Firth); American Mining (Robert Knapp); Mining on the Pacific Coast, No. XII. (J. D. Fower); the Clifton Silver Mining Company; the Eureka Consolidated Company (J. D. Emmerley); Flagstaff Mining Company; Richmond Consolidated Mining Company; Ancient Discovery of Lodes (P. W. Flower, E. Skewes); the Divining Rod (Wm. Tregay); West Chiverton Mine; West Eggar Lie, Crown, Xyptt, and Van Consols (Absalom Francis); Frontwyd Mine (T. Morris); Chontales Javal;—Foreign Mining and Metallurgy—Meetings of Public Companies: Colorado Terrible, San Pedro, Newport Abercarn, Marke Valley, East Pool, Birdseye Creek—Mining Enterprise in Utah—Steam Pumps, &c.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JULY 16, 1875.

| | COPPER. | £ s. d. | £ s. d. | £ s. d. | IRON. | per ton. | £ s. d. | £ s. d. | £ s. d. |
|------------------------|---------|---------|---------|---------|-------|----------|----------------------------|---------|---------|
| Best selected...p. ton | 87 | 0 | 0 | 88 | 0 | 0 | Barb Welsh, in London | 8 | 5 |
| Tough cake and tile. | 88 | 0 | 0 | 87 | 0 | 0 | Do., to arrive | 8 | 0 |
| Sheathing & sheets... | 91 | 0 | 0 | 92 | 0 | 0 | Nail rods | 8 | 10 |
| Bolts | 92 | 10 | 0 | 93 | 0 | 0 | Staffd., in London | 8 | 15 |
| Bottoms | 95 | 0 | 0 | — | — | — | Do., ditto | 9 | 0 |
| Old... | 80 | 0 | 0 | — | — | — | Hoops | 9 | 0 |
| Australian, Wallaroo | 90 | 0 | 0 | 90 | 10 | 0 | Do., at works | 10 | 5 |
| ditto other brands | 87 | 0 | 0 | — | — | — | Hoops | 9 | 5 |
| Chill bars, g.o.b. | 79 | 10 | 0 | 81 | 0 | 0 | Sheets, single, & plates | 15 | 0 |
| Wire | 0 | 0 | 11½ | — | — | 0 | Pig No. 1, in Wales | 5 | 0 |
| Tubes | 0 | 1 | 0½ | — | — | 0 | Refined metal, ditto | 7 | 0 |
| Sheets | — | — | — | — | — | 0 | Bars, common, ditto | 7 | 5 |
| BRASS. | — | — | — | — | — | 0 | Do., merchant, f.o.b. | 7 | 5 |
| Sheets | — | — | — | — | — | 0 | in Tyne or Tees | 7 | 15 |
| Wire | — | — | — | — | — | 0 | Do., railway, in Wales | 6 | 10 |
| Tubes | — | — | — | — | — | 0 | Do., Swed. in London | 15 | 0 |
| Yellow metal sheathing | — | — | — | — | — | 0 | To arrive | 15 | 10 |
| Sheets | — | — | — | — | — | 0 | Pig, No. 1, in Clyde | 3 | 0 |
| SPelter. | — | — | — | — | — | 0 | Do., f.o.b. Tyne or Tees | 2 | 15 |
| foreign on the spot. | 23 | 15 | 0 | 24 | 0 | 0 | Do., Nos. 3, 4, f.o.b., do | 2 | 13 |
| to arrive | 23 | 15 | 0 | — | — | 0 | Railway chairs | 4 | 0 |
| ZINC. | — | — | — | — | — | 0 | spikes | 12 | 0 |
| In sheets | — | 29 | 10 | 0 | 30 | 0 | Indian Charcoal Pigs | — | — |
| TIN. | — | — | — | — | — | 0 | in London, p. ton | — | — |
| English blocks | £ | 85 | 0 | 0 | 87 | 0 | STEEL. | — | — |
| Do., bars (in brls.) | 86 | 0 | 0 | 88 | 0 | 0 | per ton. | — | — |
| Do., refined | 87 | 0 | 0 | — | — | 0 | Ditto, in kgs. (rolled) | 19 | 5 |
| Banca. | 81 | 0 | 0 | 82 | 0 | 0 | Ditto, in faggots | 20 | 0 |
| Straits | 78 | 0 | 0 | 78 | 10 | 0 | English, spring | 18 | 0 |
| Australian | 75 | 0 | 0 | 76 | 0 | 0 | LEAD. | — | — |
| TIN-PLATES. | — | — | — | — | — | 0 | per ton. | — | — |
| IC Charcoal, 1st class | £1 | 10 | 0 | 12 | 0 | 0 | English Pig, com. | 22 | 0 |
| IX Do., 1st quality | 11 | 16 | 0 | 13 | 0 | 0 | Ditto, L.B. | 22 | 0 |
| IX Do., 2d quality | 11 | 18 | 0 | 1 | 9 | 0 | Ditto, W.B. | 23 | 0 |
| IX Do., 3d quality | 11 | 14 | 0 | 1 | 12 | 0 | Ditto, sheet | 23 | 0 |
| IC Coke | 1 | 3 | 0 | 1 | 6 | 0 | Ditto, red lead | 24 | 0 |
| IX Ditto | 1 | 9 | 0 | 1 | 13 | 0 | Ditto, white | 30 | 0 |
| Canada plates, p. ton. | 16 | 0 | 0 | 16 | 10 | 0 | Ditto, patent shot | 26 | 0 |
| Ditto, at works | 15 | 0 | 0 | 15 | 10 | 0 | Spanish | 21 | 10 |
| QUICKSILVER (p. bot.) | 0 | 7 | 6 | 10 | 10 | 0 | — | — | — |

* At the works, 1s. to 1s. 6d. per ton less.

† Add 6s. for each X.

Terne-plates 2s. per box below tin-plates of similar brand.

REMARKS.—The market continues universally quiet, and prices generally are without much alteration, but where quotations differ from those of last week, the difference is generally in a downward direction. This is mainly caused by the excessive competition, which results from the extreme restriction of trade rather than from any fresh feature having arisen. It is now found that as quotations drop an increase in business results; and it is a very general belief in some quarters, as regards some metals, that there must be a still further drop in prices before any important improvement can take place in the trade.

Some little anxiety is beginning to be felt about the harvest, in consequence of the heavy and long continued rains, which have been so wide-spread and disastrous in their consequences, not only in this country but in the various corn producing countries throughout the world. There is time yet for the corn to ripen, and should a warm sun succeed the protracted period of rain, an abundant harvest may still be gathered in; and through this means, perhaps more than any other, a prosperous season may be inaugurated. Money is cheap, and there is not much expectation, as trade is so limited, and but little money is wanted in the manufacturing districts, that what may be required for the purposes of the harvest will not materially enhance the rate of discount. The year is now so far advanced that a sudden and unexpected impulse to trade which might disturb the balance in the money market is improbable, and it is more likely that the closing half of the current year will maintain the character of the first half, and pass away without producing any very important results.

COPPER.—The market for this metal has been very much restricted during the week, and every description of copper has been dull of sale. Chili bars have hardly altered at all in value, the quotation throughout the week being 80/- to 81/- for g.o.b., usual cash terms, 79/- 10s. three months prompt fixed. The stocks of Chilian and Bolivian copper held at Liverpool and Swansea are estimated at about 14,523 tons of fine copper, as against 14,312 tons on June 30. The stocks are beginning to show a slight tendency to increase, but they are low as compared with former years. On July 15, 1874, stocks stood at 19,200 tons, and on the same date in 1873 at 23,500, and in 1872 at 15,400. At the Swansons Ticketing, on July 14, a parcel of 857 tons of ore, chiefly Cape produce, sold at an average of about 16s. 6d., the average produce being 21 11ths per cent. Tough copper is quoted 86/-; best selected, 87/-; and 4 by 4 sheets, 91/- to 92/-; yellow metal, 75/-d. to 8d.

IRON.—The continued lack of a good understanding between masters and men forms but one among the discouraging features which the iron trade presents at this time. The masters are throwing out proposals which the men are taking into consideration, and if they are unable to come to terms it is understood that arbitration will be accepted. Meanwhile these differences of opinion really do not materially affect the trade, inasmuch as there is so little actual trade doing that were the most perfect unanimity to prevail there would be nothing for it but to wait for the dawn of better times. There is very little doing in pig-iron in the North of England, and rates are without material alteration—No. 1, 57s., No. 3, 51s., and No. 4, 49s. 9d. The finished iron market is very quiet, especially for railway material, and quotations are not so firm. Rails of ordinary sections are quoted 7/-; ships' plates, 8/- 10s.; merchant bars, 8/-; and puddled bars, 5/- 2d. The ironmasters' returns of stocks for June have been issued, and show that the production for the month exhibits a falling off of about 15,000 tons as compared with the previous month. The one day less in the month of June may be the more effective cause; 120 furnaces are in blast, 37 out of blast, and 11 are in course of construction. Notwithstanding the reduction in the make, stocks in masters' hands show an increase of nearly 10,000 tons, and are now estimated at upwards of 111,000 tons. Under these circumstances it is not improbable that unless the demand for pig-iron should improve other furnaces will be put out of blast during the month, inasmuch as masters are most averse to making for stock in the present condition and with the future prospects of the trade.

As was feared, the result of the quarterly meetings in South Wales has not tended to improve the position of the iron trade. It was thought advisable by some of the leading houses to reduce quotations, in the hope that business might result, but so far the experiment has proved unsuccessful. The existing dullness throughout the trade is unparalleled. The demand was never so slack, and there are serious apprehensions that the remaining portion of the year will be as unprofitable as the past half has been.

There is as little doing in this district as in the North in railway iron, and the finished ironworks are sadly wanting orders, and there are very few now that are at work for full time. The only hope for the trade now is that such rates of wage shall be universally agreed to as shall enable the masters to lower their quotations to such a point that orders will be freely given out—foreign competition being beaten out of the field. If some such arrangement as this be not speedily made, masters will be necessitated to close their works, for it is simply an impossibility to materially lower rates of wage while rates of wage remain unchanged. The market for Scotch pig iron opened firm at the beginning of the week, and a good business was done at about 60s. 3d. to 60s. 4d. On Tuesday prices remained much about the same, but only a limited business was reported. On Wednesday there was a steady market, and at the close there were buyers at 60s. 4½d., and sellers at 60s. 7½d. Yesterday business was done at 60s. 3d., and at the close of the market there were buyers at 60s. 1½d., and sellers at 60s. 3d. The market is closed until Tuesday next.

SHIPMENTS.

Week ending July 10, 1875..... Tons 13,215

Week ending July 11, 1874..... 9,352

Increase..... 3,863

Total increase for 1875..... Tons 76,717

LEAD.—The market has been firm throughout the week, and business has been reported in good soft English pig at 22/- to 22½. 5s.; soft Spanish, without silver, is still quoted at 21/- 10s.

SPelter.—Ordinary Silesian has been dealt in at 23/- 15s. No alteration has been reported in hard spelter.

ZINC.—100 tons out of 120 tons London rolled has been sold at 27/- 15s.

QUICKSILVER.—At the commencement of the week Spanish quicksilver was quoted at 10/- 10s., and since then the price has been reduced to 10/- 10s., at which quotation a considerable business has

been reported. A new feature has transpired during the week in the report of the sale of 400 bottles of Austrian and Italian quicksilver at 10/- 7s. 6d.

TIN.—The market throughout the week has ruled in buyers' favour, and a fair amount of business has been reported in Straits from 79/- 10s. to 77/- 10s., the latter price obtaining for delivery in September. Australian has realised from 77/- to 75/- English ingots 85/- to 87/-.

TIN PLATES.—The market continues very quiet, but sellers are not in a position to make such concessions as alone will be sufficient to induce business.

THE IRON TRADE (Griffiths's Weekly Report).—Friday evening.

We have very little change to record in the market for Scotch pig-iron this week, Friday, being a *diez non* on the Glasgow Exchange there is no market. We have to report the same price as last week in Scotch pig-iron. The closing price on the Glasgow Exchange this day was 60s. 3d.; the closing price yesterday afternoon was exactly the same, buyers 60s. 1½d., sellers 60s. 4½d. No change whatever in the price on the week's operations. We quote makers' No. 1 iron as follows:—Gartsherrie, 68s. 6d.; Coltness, 68s. 6d.; Calder, 68s.; Langloan, 68s. 6d.; Summerlee, 68s. 6d.; Monkland, 68s. f.o.b. Glasgow; Glengarnock, 68s. 6d.; Eglinton, 68s. f.o.b. Androssan; Shotts, 68s. f.o.b. Leith; Kenned, 68s. f.o.b. Bo'ness. The week which has transpired since Quarter-day last Thursday at Birmingham has revealed none of those latent elements of power in the market so often predicted by the advocates of the fall in prices, the reduction of 1/- per ton on marked Staffordshire bars gives us no incipient indications of that volume of demand which must be the precursor of a favourable reaction. On the contrary, the rail market is weak and oscillating, and railway bars are literally being rolled with the most attenuated profits. The orders given out this week on the London market are from the normal sources of demand to supply the every day requirements of the engine factories and metallurgical establishments, our home trade and colonies being most prominent as buyers for best iron. We cannot observe in the operations of this market, at all events, that the fall in price has given any considerable stimulus to the trade, and come what may, buyers need not expect any further reduction in marked Staffordshire bars for another 12 months. It is thought in well informed circles here that by the end of this year the foreign demand may improve; in this case prices will be better; if, however, no marked improvement does take place before Christmas the make of numerous brands of marked bars may feel disposed to close the works altogether for a time. We give this opinion for the benefit of those subscribers who still talk of holding orders back for lower prices, for whatever other districts may do, marked Staffordshire bars—North and South—will be unable to sell at less than 10/- per ton, the Earl of Derby's 12s. 6d. extra, come what may. We have to report a large failure in the coal trade this week. Nothing, however, unfavourable of this kind has occurred in the iron trade since we last wrote. The iron bills were paid with regularity on the 13th inst. The trade in sheet iron is more active than any other kind. Staffordshire sheets for galvanising purposes have been dealt in to a considerable extent this week. Attention has been particularly directed to the best brands. The Board of Trade have received a copy of a decree of the Spanish Government, providing that the import duty on Bessemer steel rails shall be the same as that on iron rails—8 pesetas per 100 kilogrammes.

Pacific, and a limited amount from New York, were disposed of. The Peninsular and Oriental steamer, leaving Southampton this day, takes 15,700/- for Bombay.

The unexpected fall in the tin standard, to which we referred last week, has added to the depression of the MINING SHARE MARKET, and for heavy tin mines there would seem to be no sale whatever. In copper and lead mines there has been business doing, and some of them have advanced in quotations, but the settlement of the fortnightly account has occupied the chief attention of the dealers.

The mines dealt in since our last have included West Chiverton, Tankerville, Pateley Bridge, Parys Mountain, Pennerley, Bog, Wheal Kitty, Roman Gravels, South Condurrow, Tincroft, Van Consols, Ladywell, Marke Valley, Richmond, and a few others.

West Chiverton have been steadier this week, and leave off 14/- to 15/-; we understand the inspecting days here are now twice a month. Tankerville, 10½ to 11; the lode in the shaft is worth 6 tons per fathom, and the sampling for the four weeks is 150 tons of lead ore.

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NOTICES TO CORRESPONDENTS.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

VALUE OF METALS AND MINERALS.—"H. W." (Whitehaven).—In reply to the query in last week's Journal, good chrome ore of 50 oxide of chromium would fetch about 11s. per ton, but a sample and further particulars are necessary to ensure a nearer price.—G. G. B.

VISIT TO THE MANCHESTER EXHIBITIONS.—The third paper on this subject will appear in next week's Journal.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

THE SUPPLEMENTARY SHEET.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

Received,—"E. J." (San Francisco), Pastolus and Babb Mines—"J. W. T."—"J. R."—"W. F."—"H. J. B."—"A Subscriber" (Tavistock). They will be returned shortly.—"A. B." (Birmingham). A file of the *Mining Journal* can be inspected at the Public Library, and the required information be thus obtained.—"Shareholder" (Crenier and Abraham)—"Reader" (Brighton)—"M. E., &c."—"E. B. W." (Dusseldorf)—"R. B."—"G. H. W."—"Shareholder" (Don Pedro) should write to the Secretary.

IMPORTANT NOTICE.—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new POSTAL CONVENTION, which came into operation on July 1, the postage of the *Mining Journal* to many countries will be reduced to one-fourth. Henceforth the subscription will be 1/- 10s. per annum (30 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxembourg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Serbia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 1/- 10s. (50 frs.)

AVIS IMPORTANT.—AUX ABONNÉS ÉTRANGERS DU "MINING JOURNAL."—A cause de la nouvelle CONVENTION POSTALE il y aura, à partir du 1^{er} Juillet courant, une grande diminution du prix de l'abonnement du *Mining Journal* pour bien des pays dont le taux des postes est jusqu'ici bien élevé. A partir du 1^{er} Juillet le prix de l'abonnement sera de 30 frs., le port compris, pour l'Autriche, Belgique, France, Danemark et ses dépendances, l'Egypte, l'Allemagne, la Grèce, l'Italie, Hollande, Portugal et ses dépendances, Roumanie, Russie, Serbie, Suède, la Suisse, la Turquie, l'Afrique septentrionale, etc. Le montant, si l'on le veut, sera touché à domicile, la fin de l'an. L'abonnement continuera sauf avis contraire.

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, JULY 17, 1875.

COLLIERY ACCIDENTS, AND THE LESSONS THEY TEACH.

There is scarcely any kind of intelligence which should be perused with more interest by mining engineers than that which gives the particulars of mining accidents. In this belief the *Mining Journal*, from time to time, deems it a duty not only to record such accidents, but likewise, as occasion serves, to make those observations upon them which appear to us to be called for by the surrounding circumstances. As, in common with everyone interested in the progress of coal mining in Great Britain, we desire very earnestly that our coal should be got without that grave loss of life and limb with which its winning is at present accompanied, we now remark upon certain recent accidents in the Yorkshire and Lancashire coal fields. In the *Mining Journal* of July 3 we dwelt upon the necessity there is for the abolition of the use of gunpowder in pits where there is room to fear that the firing of it may be attended with dangerous consequences, and our readers will remember that on many previous occasions we have felt it our duty to take a similar line of action. In that article we quoted Mr. F. N. WARDELL on the 8th general rule of the Mines Regulation Act, and recorded with great satisfaction that within the last few months that Inspector had been successful in inducing some 10 or 12 of the largest colliery owners in South Yorkshire, including Earl FITZWILLIAM, to entirely do away with blasting. Another work would seem to be before Mr. WARDELL. There is a need to be that he should make an equal effort to induce colliery owners in his district to use safety-lamps where now naked lights are burned. One of the seams in his district is the Barnsley seam. To use naked lights in this seam is to incur a measure of risk, and Mr. WARDELL has not failed from time to time to say so. Arising out of the use of naked lights in that seam, in which a certain amount of gas is always to be found, there was recently an explosion at the Orgreave Colliery, about 7 miles from Sheffield, by which, though no life was lost, yet some 20 workpeople were injured. The gas in this case escaped from the floor of one of the banks. So long as the naked light is used in the collieries in the neighbourhood of Rotherham so long will these sad accidents occur. It is painful to learn that there are about 20 collieries working the dangerous seam in the Rotherham neighbourhood where the naked light is in constant use. Our district correspondence at the time announced that the managers after this accident had determined to prohibit the use of naked lights in the pits, and operations were stayed until a complete supply of safety-lamps was available. The Fence Colliery Company were by this accident not only taught, but they learnt, the lesson which the disaster furnished. Let us hope that before similar, or even more painful, issues attend the use of naked lights in the score pits to which reference has been made the managers in those cases will, either by this accident or because of the representations of Mr. WARDELL, take a similar step to that which has been adopted by the Fence managers. Meanwhile the Government Inspector has our warmest wishes for success in any effort which, encouraged by the result of his appeals to the collieries where gunpowder has before been improperly used, he may now devote it his duty to put forth.

Nor would Mr. WARDELL be doing amiss if in his district he should remind colliery managers, who may not only legally but likewise fairly use gunpowder, that this explosive is likely to be accompanied with far less risk when it is used in cartridges than when it is given to the men in the whole canister. What seems to us to have been a somewhat free and easy practice in the distribution of gunpowder has been shown in connection with the accident at the Dudley Hill Colliery, belonging to the Bowring Iron Company. Near some old workings where gas had accumulated a small band of men had to bring down some ironstone, and to do this they freely used the contents of their powder cans: 3½ lbs. of powder in canisters was supplied by the company every morning to men who needed it, and the rule was that they should return their canisters at night, but it was seldom that they did so. Yet somehow the deputy viewer did not usually find canisters about when he examined the workings in the morning, but he confesses he did not look particularly for them. Anyhow, one of the detachments of miners we have mentioned was breaking up the iron shale near to the old workings with a shot, when probably the shot fired before they were ready for it, and at the same time the gas in the old workings exploded. The result was that a man (PADGETT) and two boys were killed, and a fourth somewhat badly hurt. In the opinion of the Coroner's jury death was caused "by an accidental explosion of gunpowder, which might have liberated gas from the old workings, and fired it, but how this was brought about they had no evidence to show." All this is just what one might have expected, but surely the lesson which this accident teaches is that we have already hinted—the use in blasting of one or other of the numerous classes of cartridges, by which the gunpowder is limited in quantity, and the using of it is reduced to the minimum of hazard.

Nor should colliery managers who are sinking shafts forget that there is much need for closely following the sinkers with air. It is not enough to well blow the air over their heads—it should sweep through to the very bottom of lowest scaffolded space, and when the air is near to the men care must be taken that if the air troughs

are temporarily removed whilst a shot is being fired, it is quickly replaced. A neglect to observe these requisites to safe sinking in the midst of carburetted hydrogen, should not lead to fatal issues if managers bear enough in mind that more thoughtfulness in both these regards might perhaps have been unattended with the loss of the four lives at one of the pits of the Mirfield Coal Company, also in Mr. WARDELL's district, as to which the verdict at the Coroner's enquiry was—"accidental death, but the jury are of opinion that it was an error of judgment on the part of the managers in not continuing the air-pipes below the scaffolds." Finally the loss of three men at the Coppice Colliery of the Bridgewater trustees will not have been in vain if working places where the mine has been heaving are examined elsewhere with the care which should be given to the timbering of such places before the colliers are permitted to resume work in the morning.

WAGES AND PROFITS IN THE IRON AND STEEL TRADES.

Considerable misapprehension appears to exist amongst iron-workers and miners as to the profits made by their employers, and this is in no way lessened by the tone adopted by the leaders of the men's associations in their inflammatory addresses on the rights of labour, but who carefully avoid all mention of the rights of capital. They tell their hearers, who are always willing to accept from them as true every statement which favours the workmen's side of the question, that the position of trade is not in the state their employers desire to be believed, with a view to having some apparently substantial groundwork for reducing wages. They also assert that the price of iron and steel, as well as coal, has not fallen so low as many interested parties wish to make those in their employment believe. At the same they have entirely abstained from directing attention to the many failures in the iron trade, the winding-up of numerous colliery and other companies, and the plethoric state of the labour market, of which we have daily record. These are matters sufficiently suggestive in themselves to indicate what is perfectly well known to all our ironmasters and mineowners, that the two most important of our national industries are in anything but a healthy state, the price of iron, steel, and coal being exceptionally low. To such an extent has this been the case that in numerous instances the business done has been on terms such as could not pay bank interest on the capital invested in ironworks and collieries. But such truths are never made known to the rank and file of the workmen by the well-paid agitators who live in idleness and fatten on the industry of the working men—their presumed employers, but in fact their too often faithful serfs, and whose preachers and teachings are more injurious to them than they have ever proved beneficial. But such information ought to be placed within the reach of our working population, particularly that portion of it connected with the production of iron, steel, and coal—industries which may truly be said to be the foundation of our commercial greatness. If, however, we look at those important branches of our trade for the last half-year, and in which such a vast capital is invested, from almost any point of view, we find that employers have had very great difficulties to contend with, and are even now struggling with them. This is most forcibly shown by the Board of Trade returns just issued for the six months ending June 30, and the same months of 1874. In them we have a record, the accuracy of which cannot be questioned, of the quality of iron, steel, coal, &c., sent out of the country, as well as of the declared value. From them we find that a very great change has taken place during the year so far in the value not only of raw and manufactured iron and steel, but also in coal, with which the production of the former is so intimately connected. Such information, clearly and fairly analysed and dissected, should, in our opinion, be placed within the reach of both masters and workmen, so that facts in which both have deep interest should be thoroughly understood and appreciated. With that view we purpose giving some particulars with respect to the iron and steel trades, based on the export returns of the Board of Trade for the last six months, and the same months of 1874.

Commencing with pig-iron, we find that our exports for the present year up to June 30 were considerably in excess of those for the same period of 1874, the respective quantities being 432,510 tons, and 319,898 tons, an increase in favour of 1875 of 112,621 tons. But it is most significant indeed to find that the gross value of the lesser quantity was more than for the larger one, for whilst the average price in 1874 was no less than 5/- 3s. 10d. per ton, in 1875 it had fallen to 3/- 19s. per ton. It is needless to say that the wages of furnace-men and ironstone miners were only reduced to a very moderate extent indeed, and whilst coal was rather cheaper in 1875, yet it will be evident that the making of pig-iron of late must have been the reverse of remunerative. The same remarks apply to bar, angle, bolt, and rod iron, the exports of which increased from 114,485 tons in the first half of 1874 to 128,388 tons for the corresponding period of the present year. And here, again, we have to notice the very great falling off in the price, for whilst the iron named exported last year during the first six months averaged 12/- 17s. 6d. per ton, this year so far it has only been 10/- 6s. 2d. per ton. For this great loss we are not aware that the makers have received any compensating advantage at all approaching the loss in price. In rails, however, the change has been very great, and has been much felt, for it is the principal article in iron exported from England, and for many years past we have had the best markets almost in our own hands. Such is not the case now, for whilst in the first half of 1874 we sent 74,460 tons to Russia, this half-year we only exported 30,927 tons. There was also a very great decrease in the tonnage sent to the United States, British India, Sweden, and Norway. The actual fall-off was from 427,267 tons for the six months of 1874 to 259,307 tons during the corresponding period of 1875. This was a very serious falling-off, but it was evident that it was not occasioned to any appreciable extent by the stoppage of the mills and furnaces, or of the collieries, owing to the strike in South Wales. The men in that portion of the Principality did not believe the statement of their employers that the price of railway iron had fallen off very much indeed, and wished to examine the books. As that, for obvious reasons, was not allowed, we are in a position to give the information required, and which fully bears out the assertions made by the South Wales ironmasters. For the first half-year of 1874 the average price of the railway iron exported was 12/- 17s. 6d. per ton, while for the same months of the present year it was less than 10/- 8s. 6d. per ton. The difference shows that the makers of rails were more than justified in asking for a considerable reduction in the wages of both millmen and miners, whilst it is also plain that the latter had not the slightest ground for refusing to share in the great falling off which had taken place in the price of manufactured iron, especially rails. In hoops, sheets, boiler, and armour-plates there was a great decrease in the price, for they were about 3/- per ton less this year than they were last. The above simple facts, which cannot be controverted, show how useless it is for men to stand out for wages nearly equal to what they were in receipt of last year, when such a very great change has taken place in the price of every description of iron and steel.

It has been the custom of many of the leaders of our Trades Unions to sneer at the idea of trade being driven out of England by the action of the workmen. But, despite such jeers, this is now being actually accomplished. America is now competing with us in many markets, and we find from the Bureau statistics for April that for that month the importations of iron and steel of every description were \$16,040,838, against \$28,537,256 in April, 1874. The decrease from April, 1874, will, consequently, be something like 45 per cent. On the other hand, the export of the same description of goods shows a very considerable increase, as follows:—

April, 1875. April, 1874.

Iron and manufacture of iron \$6,236,765 87,769,314

Steel and manufacture of steel 5,819,634 2,685,328

An increase equal to about 33 per cent. The above figures cannot fail, we think, to show that America is already a powerful competitor with us in many markets for iron and steel, and is likely to become still more so. It will, then, be well for our workmen to seriously consider their position, and whether it is likely to be improved by acting in opposition to their employers, instead of aiding them in every way to hold the position they have hitherto done in the markets of the world. The latter can only be accomplished by

harmony of action and a cordial understanding between the workmen and their employers, and if this be done we have little fear but what our manufacturers will be able to hold their own against all competitors. A contrary course, however, may seriously injure employers, but must end in something closely approaching ruin to the men, and the complete discomfiture of the Unionist leaders.

PREVENTION OF EXPLOSIONS IN COLLIES.

In the very able letter which appeared on the above subject in the Supplement of last week's Journal from Mr. WARBURTON, a well-practical suggestions are made with respect to the working of coal, which we think ought to receive the very best attention at the hands of our colliery owners. He points out with force what we have on several occasions ourselves done, that blasting coal is not only not scientific, but destructive alike to the value and the quality of coal. This will be apparent when it is considered what a very large quantity of slack powder it must necessarily make, leaving entirely out of the question, on the other hand, that the wedge brings it down in large blocks. But what we were more particularly struck with in the letter of our esteemed correspondent was his statement that one man will use (say) 12 lbs. or 15 lbs. of powder in a week, whilst his next neighbour will get as much coal twice as valuable, and will not use, perhaps, 1 lb. of powder, or perhaps none at all. This shows that superior skill in a mine, as it is, indeed, everywhere else, is to the advantage, not only of the possessor of it, but to the owner as well. It is thus evident, on the ground of increasing the value of coal alone, that blasting is not only unnecessary and dangerous but a serious loss to the mineowner. There is, therefore, no reason why the colliers should not be initiated or instructed into the best method of "holing" the coal, and shown how it might be brought down by its own superercent weight.

Such limited education as to mining would, doubtless, lead to a desire for further information with respect to other matters, by which labour might be lessened, and the get of coal increased. The miner might be shown where his wedge could be placed to the best advantage, and be made acquainted with the line of least resistance in the coal, whilst by an acquaintance with the character and nature of the roof he would be saved much time and trouble in timbering. Not only so, but be able to prevent the possibility of injury from falls. But we are afraid that such elementary instruction, by which accidents would be prevented, coal got much easier, and in a more marketable state than at present, and to the pecuniary advantage of both master and workman, will not find much favour from those who would be benefited by the making of miners more skilful than they now are. Where so much is to be gained, however, we hope that someone will make a move in the direction indicated, if only to show to others what the result would be. That there are men of ability willing to rise from the ranks of the collier if they had the opportunity we know full well, and we have had many instances of men rising to the highest eminence as mining engineers who had worked at the coal face for a livelihood—a notable example, indeed, we have in the career of our esteemed correspondent, Mr. WARBURTON. The testimony of that gentleman shows that blasting with powder is not only unnecessary but a positive loss to the miner and his employer, whilst it must be always looked upon as a fruitful source of danger. There is, therefore, no reason whatever why blasting should not be done away with in all our collieries, more particularly those in which it is known that gas is let off in considerable quantities. As we have before pointed out, a majority of the Government Inspectors of Mines have agreed that gunpowder should be done away with, whilst we are told by a gentleman of such extensive experience as Mr. WARBURTON that the coal could be raised without it more systematically, and eventually scientifically, and less murderously, and with results in favour of the colliery owner that would astonish him. We are, therefore, at a loss to find any ground whatever for the Home Secretary declining to act at once and prohibit the use of a material that has caused such an immense loss of life in so many of our mining districts.

SUBMARINE TUNNELLING, AND THE MCKEAN DRILL.—The tunnel heading which is being driven under the Severn, at Portskewet, by the Great Western Railway Company, to prove the ground, is now advanced 350 yards, and everything is favourable so far. This driving is at 200 ft. below high water, a shaft having been sunk for the purpose of the experiment. The McKean Boring Machines are employed with great success, over 18 yards having been driven in hard rock in one day, as we are informed.

SAN PEDRO (CHILI) COPPER MINING COMPANY.—A general meeting was held on Monday, and the details appear in another column. More than ordinary interest attached to this meeting, as the manager in Chili was present. It will probably be recollect that these shares were freely saleable at from 6/- to 7/- per share, when the quotation suddenly declined, owing to water having been unexpectedly tapped at the bottom of the mine, and the consequent suspension of returns. It is well known that this is regarded as indicative of the continuance of the lode in depth, and in this instance the water will prove of the greatest value for dressing operations at surface. There is a very large quantity of ore of a low produce above the 110 and at surface, which this water and the new machinery will enable the agents to dress up to about 20 per cent. When it is known that 12 per cent. ore pays the costs and that all in excess is profit, it will be readily understood that considerable importance rests upon the development of the manœuvres, which is estimated to be at the lower levels 50 fms. wide; should this prove to be "bronzes," and large stones of this description have already been met with in the cross-cut, the produce will, probably, reach 40 or 50 per cent. Supporting this hope is the remarkable change that has taken place from the coloured or black ores to yellow sulphurates, or "bronzes," which in this district is looked upon as a certain indication of the presence of deposits of the richer ore. The mine is now amply supplied with machinery of the best description, and there are no debts either at home or in Chili, while the encouraging prospects now seem to point to the early commencement of that career of success so confidently anticipated at the formation of the company.

NEW ZEALAND KAPANGA MINING COMPANY.—In our report of the proceedings at the meeting of shareholders, held on the 2d inst., and which appeared in the *Mining Journal* the following day, we unintentionally attributed to Lieut.-Col. Fludyer, one of the directors, certain observations which were uttered by another shareholder. The report stated that Lieut.-Col. Fludyer, after seconding the resolution, went on to make some remarks respecting the intelligence and ability of Capt. Nancarrow, the economical and excellent manner in which the works had been laid out, and the water being got rid of, and further to express his opinion that the value of the mine was very high, and that he had not formed that opinion without due reflection. As a matter of fact Lieut.-Col. Fludyer made no such remark; he simply seconded the resolution and sat down, and the subsequent remarks which are attributed to him were really made by Mr. George Ogle. We readily make this correction, as it is of importance that gentlemen at public meetings should not be credited with observations which they never uttered.

COAL AND IRON IN THE UNITED STATES.—The Chicago, Burlington, and Quincy Railroad Company steel-railed its track last year to the following extent:—Illinois, 52 miles; and Iowa, 30 miles; making a total of 82 miles. This makes the total extent of line steel-railed at the close of 1874, 236½ miles. The Camden and Philadelphia Steamboat Ferry Company has contracted with the Harlan and Hollingsworth Company of Wilmington, Delaware, to build another iron ferry-boat of the same model and dimensions as the Pennsylvania, constructed last year. The anthracite coal production of Pennsylvania to June 12 this year amounted to 5,540,830 tons, against 7,931,638 tons in the corresponding period of 1874, showing a decrease this year of 2,391,808 tons. The bituminous coal production to June 12 this year was 1,312,193 tons, making an aggregate production to June 12 this year of 6,853,023 tons, against 9,189,257 tons in the corresponding period of 1874, showing a reduction this

year of 2,336,234 tons. The Philadelphia and Reading Coal and Iron Company has issued a circular of coal prices. The rates for June are 40 cents per ton below the prices of June last year for lump and steamer, 15 cents per ton less for egg, 10 cents per ton higher for store, and about the same for chestnut and pea. The average is \$2.50 per ton, showing a reduction on last year's rates, with a different distribution of prices for different kinds. The latest intelligence from Pittsburg as to the iron trade of that district is of a more cheerful character.

MOLD MINES.—This important property is now advertised for sale, in consequence of the depressed state of the times for the last two or three years having paralysed the efforts of a most respectable company in their striving to complete their subscription list for new capital for the erection of another pumping plant to perfect the drainage of a valuable run of mines practically proved. In the Journal of Feb. 27 last reference was made to this enterprise, which was then brought under the notice of the public. It was quite anticipated under such a direction, and with such a valuable property the shares would be at once taken up, but it appears that only 5000 shares were subscribed towards the minimum of 8000 shares required, and this shows the late indisposition of the public to subscribe to the most legitimate undertakings. In next week's Journal a further reference will be made, as this undertaking should not be allowed to be lost sight of.

ROYAL SCHOOL OF MINES.

At a meeting of the Council, held on Saturday, July 3, the following gentlemen received the diploma of Associate of the Royal School of Mines:—

MINING AND METALLURGICAL DIVISIONS.—Harry H. Becher, W. Frecheville, F. H. Marshall, Ambrose R. Willis.

MINING DIVISION.—Archibald E. Pinching, G. Seymour, H. Lamont Young.

METALLURGICAL DIVISION.—G. Fitz-Brown, Robert Hellon, W. Foulkes Lowe, Thomas Purdie.

GEOLoGICAL DIVISION.—G. C. Frames.

The following scholarships and prizes were also awarded:—

THIRD-YEAR STUDENTS.—The De la Beche medal and prize of books to Mr. G. Fitz-Brown, The Murchison medal and prize of books for geology to Mr. G. Seymour.

SECOND-YEAR STUDENTS.—H. R. H. the Duke of Cornwall's Scholarship of 30/- for two years to Mr. H. Louis; and the Royal Exhibition of 25/- to Mr. W. Hewitt.

FIRST-YEAR STUDENTS.—Two Royal Scholarships of 15/- each to Mr. A. N. Pearson and Mr. L. J. Whalley.

REPORT FROM CORNWALL.

July 15.—Least said at such a crisis as this is certainly soonest mended. It is really idle to pretend at giving anything in the shape of a forecast of the immediate future, though as the general idea appears to be that we have not by any means seen the worst, it is by no means unlikely that the idea will be verified. Evil omens and forebodings are oftener realised than good ones. When, however, we announced—for the first time in print—a fortnight since that a renewed downward, though unofficial, step had taken place we must confess that we by no means expected it would be followed up so soon and so seriously. Again, there is nothing left but to wish and wait; though if this process is to continue much longer it is very certain that the number of workers and masters will be very seriously reduced. People naturally get tired even of merely going on just meeting cost, though it would be absurd under such circumstances to talk of abandonment in any serious mode, for while there is no loss on the one side, no one knows what may turn up on the other. But where as regularly as account days come round calls come round too, the most stalwart patience and the deepest pocket must in time show signs of exhaustion. Let us hope that the good time which we are promised by Christmas will not be so long delayed as that festival. If it is, the results will be rather awkward in certain quarters.

There is always a bright spot to the sky ever so dark; and upon this occasion it is supplied by East Pool, the recent history of which may be taken as in some sense a type of the chequered career of Cornish mining. Not so very long ago it was struggling under such a heavy burden of debt that some people believed it would never hold its head above water. But here it is—the debt cleared off, a good balance in hand, and a dividend declared. When a good mine is well managed it is very hard to kill; and East Pool is likely to outlast a generation of croakers yet.

Before long we shall hear how the new boring-machine answers in Dolcoath. We are more than ever convinced that it is in this direction that we must look for one of the most important sources of cheapening production, and we are perfectly sure that what has been done elsewhere can be done in Cornwall. The principle is beyond dispute; the question of adaptability can only be one of time.

ROYAL CORNWALL GEOLOGICAL MUSEUM SCIENCE CLASSES.—At the late examinations held by the Science and Art Department, the following students were successful in steam and metallurgy:—Philip Loretz, steam, elementary first-class; metallurgy, elementary, second-class. J. B. Magor, steam, elementary first-class; metallurgy, elementary, second-class. E. Serres, steam, elementary second-class; metallurgy, elementary first-class. The classes in these subjects were taught by Mr. Wm. Jago, of Hayle, who is now at the Government Science Schools, London, attending a course of instruction in advanced chemical analysis, &c., under the tuition of Prof. Frankland, F.R.S., examiner in chemistry to the Science and Art Department and Royal School of Mines.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

July 15.—The South Staffordshire Iron Trade has not undergone any improvement of importance as the result of the recent reduction in the prices of the leading firms. The market both for pig and finished iron is, indeed, decidedly flat, buyers expressing themselves dissatisfied with the extent of the reduction, which they declare is inadequate to the requirements of the case. Makers, on the other hand, affirm that the conditions of production render existing rates barely remunerative, and that any further concession is for the present impossible.

Both in Wolverhampton yesterday, and in Birmingham to-day, good orders which might have been placed at a slight reduction were refused by the makers. Common cinder pigs range from 21. 17s. 6d. to 31. 5s. per ton. Mine pig, hot-air, is offering at 4/- for ordinary, and 4. 10s. for best quality at works. The pig-iron manufacturers have decided to give notice to the furnace-men for a reduction of 10 per cent. in the rate of wages, to meet the recent concession in prices. Finished iron maintains only a languid enquiry, and the selling rates for the lower qualities show a good deal of irregularity. Common (unmarked) bars are selling at 87. 5s., and ordinary sheets (singles) at 117. 5s. to 127. per ton. A reduction of 20/- per ton in the rate for galvanised roofing sheets has been declared this week by the leading local makers, Earl Dudley and Messrs. Barron quote on the basis of 10. 2s. 6d. for bars, but the New British Iron Company continue to quote the old rate of 11. 12s. 6d. per ton.

There is no improvement to note this week in the South Staffordshire Coal Trade, few of the collieries being in anything like regular operation.

Best qualities of coal and slack command list rates, but selling prices for the lower qualities are irregular.

The Cannock and Wimblebury Colliery Company (Limited), at their new sinking near Hedgesford, have just passed through the Deep coal, which is of splendid quality, and 8 ft. 6 in. thick. The total depth of the shaft is 300 yards, and it has occupied just two years in sinking. Powerful plant and machinery have been put down, and the colliery will be ready for trade next winter.

This morning (Thursday) a boiler exploded at the Star Ironworks, near Wolverhampton, killing one and severely injuring several of the workpeople. Great damage was done to the works, as well as to adjacent property. The works had only been in operation a fortnight, but the boiler was an old one of the egg-shaped class. Mr. Elijah Bannister is the proprietor of the works.

The following were among to-day's quotations on the Birmingham Stock Exchange:—Cannock and Huntington Colliery Company (Limited), 2/- prem.; Chillington Iron, 5/-; John Bagnall and Sons, 6/-; 172,082 tons in June last year; Newport, 28,783 tons, against 23,789

Ivy House Colliery, 1 dis.; Sandwell Park Colliery (10/- paid), 29 buyers; Gloucester Wagon, 16/-.

The general tone of the market is steady. The North Staffordshire Iron Trade is extremely flat, and the mills and forges are only doing four to eight "turns" per week. Bridge and boiler plates are the only classes of produce for which there is anything like a demand, and orders for these descriptions have considerably fallen off during the past fortnight. Plates are selling at 11/- to 11. 10s., and crown bars at 8/-, 12s. 6d. per ton. There is no movement in the coal trade, and good manufacturing coal is selling at 12s. to 13s. per ton.

At the ironfoundries, both in North and South Staffordshire, the demand for castings of the heavier class is well sustained, and there is every prospect of exceptional activity in this direction for some time to come.

The new rail-mill invented by Mr. W. Brown, of Bilton, has been tested with very successful results in the North Country iron district. During the past fortnight the Britannia Ironworks Company, of Middlesbrough, have made the extraordinary quantity of 2404 tons of rails, working 10 turns each week, with only 14 first-heating furnaces. The rails made consist of 45-lb. and 60-lb. sections, and the rate of production is unprecedented in the rail trade.

TRADE OF THE TYNE AND WEAR.

July 15.—The Coal Trade, on the whole, is very quiet, and many of the works have some difficulty in keeping on full time. There is no alteration in prices, but the late rates are not easily maintained. The demand for manufacturing coal has improved, and this is the only branch of the trade which shows any life at present. The demand for coke continues pretty good, but scarcely so strong as it was a month ago, the reduction in the make of pig-iron having evidently produced an effect. The house coal trade is very dull, and the same remark applies to gas coal. At Blyth the export trade is very quiet, although a good many cargoes of best steam coal have been shipped during the past week for the Baltic.

The Pig-Iron Trade continues very dull; the make has been considerably reduced, but stocks are still accumulating. A number of furnaces have been blown out, but no good result has followed yet. The manufacturers of finished iron get the raw material, both pig metal and coal, comparatively cheap, but they are at present pestered with the wages question. The demand for rails, bars, and plates is very limited. Prices for plates for general contracts are 8/- 10s. to 8/- 17s. 6d. Other classes of finished iron have not changed in value. The wages question is in a very critical state, and serious complications may possibly arise. At Middlesbrough, on Tuesday, the Coal Trade was reported dull. Coke has a further declining tendency. Woods' patent leak stopper, for stopping leaks in ships, was shown, and excited attention and general commendation.

Messrs. Hartley and Co., of Sunderland, are making good use of the idle time afforded them by the strike of the men employed in their extensive glassworks, to re-model the furnaces by substituting Siemens' for the present system. The Siemens' plan is to melt the glass by means of gas heat, instead of the coal which is used in the present style of furnace, and I believe it is a successful method for glassworks. These gas furnaces, I understand, are to be fitted up in all the houses before work is resumed, and the operation will necessarily take up some time. The glass trade generally is said to be much affected by abundant supplies from Belgium of the cheaper kinds of sheets for windows, and it, therefore, behoves British employers to strive after every improvement of an economical character, especially in the direction of saving fuel.

REPORT FROM LANCASHIRE AND CHESHIRE.

July 15.—The severe depression which has prevailed for the past few months in the Coal Trade continues without any sign of improvement. The reductions in prices, referred to in last report, do not appear to have materially affected business, and the state of affairs generally is very unsatisfactory. Large quantities of coal are being stocked on the pit banks, despite the alleged intention of the men to limit the output. There is a general feeling that wages ought to be reduced, but there is a want of unity on the part of the masters, some of whom got a severe lesson during the last strike, and no action has been taken in the matter. The main body of employers will not agree to enforce a reduction unless they have some sort of assurance that a few large concerns will not in the event of a struggle take the same course as they did in the last strike, and continue working while others were fighting the battle.

The traffic returns for last month do not show any important change in the quantity of coal sent by rail. The London and North-Western Company conveyed to the metropolis 78,196 tons in May, and 66,703 tons in June, but the decline does not appear to have materially affected the Lancashire collieries. There was a decrease in the quantity sent from Ince Hall, Pemberton, and Hindley Hall; but, on the other hand, the figures relating to the Strangeways, Mesnes, Garswood, and Swinley Collieries, showed an increase. Eight colliery firms sent 6700 tons in May, and 6400 tons in June.

An inquest was held on Monday touching the death of three miners, killed by a fall of roof at the Coppicefield Colliery, belonging to the Bridgewater Trustees, on the previous Tuesday. The evidence showed that the deceased and some other men were sitting in a "place," talking over some arrangements as to their work, when a sudden fall took place, burying the deceased. A verdict of "Accidentally killed" was returned. Mr. Martin, the Assistant-Inspector of Mines for the district, was present at the enquiry.

An examination of candidates for certificates as managers of mines has just closed in Wigan. Only four of the applicants passed; this is rather better than the result of the last sitting, but there is some anxiety as to where our mine managers are to come from, seeing that so few of the persons who present themselves as candidates are considered competent to hold certificates.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

July 15.—There is no doubt that every branch of industry in this district is more or less affected by the extreme dullness which continues to prevail in the Iron Trade. From being the main staple of this district, iron making has now become the least active industry in the Principality. It is to be feared that it will remain so to the end of the year, if not longer. The quarterly meetings have, unfortunately, had quite an opposite effect on business to what was expected. Instead of there being an increase in transactions orders are fewer than they were previously, and, with just one or two exceptions, advices do not indicate that there is likely to be many orders in the market for some time to come. What with the great competition in all trades, and the small request for iron of any description, it is impossible that the lowering of quotations can produce any appreciable change in the trade. It is just possible that Russia will be a somewhat more extensive customer in the market in the course of the next few months, as it is understood that some important railway projects are to be carried out there, and if so probably this district will secure its share of contracts.

Complaints are also current about the decline in the steel trade, the works being badly employed. There is no new feature to note in the tin plate trade. The strike at the Llandaff Works still continues. To give an idea of the sluggish state of business it may be mentioned that the total quantity of iron cleared from the district to the foreign markets during the last month was only 6540 tons, of which 4243 tons were cleared from Cardiff, 1132 tons from Newport, and 1171 tons from Swansea. It was distributed as follows:—Chalmac, 1062 tons; Gallao, 336 tons; Gothenburg, 1070 tons; Palermo, 110 tons; Stockholm, 425 tons; Sundswall, 400 tons; Christians, 582 tons; Gothenburg, 550 tons; Galatz, 752 tons; Lisbon, 102 tons; and Valencia, 317 tons.

The Coal Trade is affected to a considerable extent by the great depression in the iron trade; but there is a good foreign demand, and a large business is done. The supply, however, still exceeds the demand, and prices are expected to further decline. The coal exports last month were as annexed:—Cardiff, 270,343 tons, as against 172,082 tons in June last year; Newport, 28,783 tons, against 23,789

tons; Swansea, 55,041, against 47,163 tons; and Llanelli, 7859 tons, against 10,620 tons. The coal shipments coastwise during the same period were as follow:—Cardiff, 60,047 tons, against 55,175 tons; Newport, 64,037 tons, against 55,723 tons; Swansea, 24,522 tons, against 22,789 tons; and Llanelli, 14,626 tons, against 16,666 tons. The clearances so far this month continue on the same large scale.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

July 15.—Lead mining in Derbyshire has undergone no change whatever of late, the output of ore being kept up to about an average at the leading works at Wirksworth, Hucklow, Castleton, the Peak, Eyan, &c. No doubt one of the great drawbacks to the development of lead ore in the county is the want of railway facilities, so that but few capitalists think about speculating in districts where those facilities are wanting. There are some few companies working mines, but, as a rule, they have not turned out so very profitable as to induce others to follow their example, so that the greater part of the business is done by private enterprise, as represented by the Wass family. The very reverse is the case with respect to coal mining on the other side of the Midland Railway, for there are companies raising as much as 600,000 tons of coal a year, if not considerably more, many of them being connected with very extensive ironworks, consuming a good deal of the coal raised. The export demand, however, for house coal at the present time is very moderate indeed, so much so that many collieries sending and selling alone to consumers principally at a distance have been unable to keep their men going more than four days in the week. The demand for London is very moderate indeed, and there has been a considerable falling off in the tonnage sent from a good many pits doing business there, although prices are considerably lower than they have been for a long time. Steam coal, however, is in better request, and the business is not so active for the time of year as we have known it to be. Trade at the Sherland Colliery, which will shortly pass into the hands of the South Yorkshire Miners' Association, is very quiet, but it is said that once the transfer is made it will be worked with great energy. The ironworks, as a rule, have been doing very well in most parts of Derbyshire, the make of pig being very well kept up. Some considerable orders are in hand for foundry material and light malleable castings. At Dronfield the Bessemer works of Wilson and Cammell have been turning out large quantities of rails.

Most of the Sheffield trades are still in a languid state, and without much prospect of an early improvement. The Bessemer works are working tolerably well, and there is every appearance that the Phoenix Company will be re-formed, many of the old shareholders being very desirous that the concern should be carried on, for there are large and profitable orders in hand. The offer of 12s. in 12s. being accepted, there is no reason why the new company should not at once be in full operation. The armour-plate mills have been running very well on Government and other orders, and there is a very few enquiries for ship and boiler plates. The American houses are very quiet, particularly as regards cutlery. The foundries are doing very well, especially in heavy castings and tubing, grates, stoves, and ranges. House coal in most parts of South Yorkshire is almost a drug, and there has been a marked falling off in the business doing to London and the South from the leading collieries. Prices have come down, but merchants and consumers still hold back, no doubt believing that a still further drop must be made, and which is not at all unlikely. Steam coal is not in such request as might be expected for the season, although a good deal is being sent away for shipment.

It is usual at this time of the year, when the export demand for steam coal is the largest, to advance the price of it. But the contrary has been the case this season, for at a meeting of the South Yorkshire Steam Coalowners' Association, held at the King's Head Hotel, Barnsley, on Tuesday, it was agreed to reduce the price of steam coal from 12s. 6d. to 11s. 6d. per ton. The Oakwell Colliery, close to Barnsley, now in liquidation, is not likely to turn out very well, it is said. The concern is a very small one, the seam of coal being thin, and not of particularly good quality, yet a sum of money was given for it by the company very far indeed beyond its value, but persons enter into these speculations without consideration or knowledge, for a visit to the place where such collieries are situated will ensure information as to the actual value. But the Oakwell is not the only colliery in the same locality that will have to be wound-up, for there are others in equally as shaky a state, and the dissolution is a mere question of time. It is said that the thick coal collieries are scarcely paying, and if such is the case there is a very poor chance indeed for those working thin beds.

At the annual meeting of the Midland Institute of Mining Engineers, held at Barnsley, a few days since, Mr. T. W. Emberton, of Methley, near Leeds, was appointed President for the next three years, and Messrs. Miller, Beaumont, and M. W. P. Maddison Vice-Presidents. It was agreed that the title of Institute in future should be "The Mining, Civil, and Mechanical Engineers."

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week there has been an improvement in the amount of business transacted. In Iron and Coal concerns' shares prices are again generally lower, the only exceptions being Marbella, Monkland ordinary, and Omnes and Cleland, which are each a trifle higher; and it is worthy of note that these three were also exceptional improvements in the previous week. Mwyndy Iron Ore has come into demand at 2 to 2½, on the satisfactory interim dividend just paid. Ebby Vale has declined 4/-; Glasgow Port Washington (8/- paid), 3s.; Monkland 7 per cent. guaranteed preference, 4/-; Nant-y-Glo and Blaina preferred, 4/-; and Scottish Australian are also trifle lower. In shares of Copper concerns Glasgow Caradon new shares have improved 1s., but all others are lower. The fall in Tharsis descriptions is owing to a rumour that the Spanish Government contemplate a tax on copper; but it may be pointed out that Rio Tinto have not suffered this week. Panucillo, Russian, and Yorke Peninsula ordinary are each 4/- lower, and the last-named is now as low as it is likely to be. Huntington improved to 4/-, but is now moving downwards. Gunnislake (Clitters) is steady, at 1½ to 1½; and Marke Valley is in some request, at 1½ to 1½. Dunstony Wheat Phoenix is steady, at 2s. to 4s.; also West Maria and Fortescue, at 4s. to 8s. Almada and Tirito, 3 to 4. In shares of Gold and Silver mining companies there have been heavy declines, Richmond being as much as 2½ lower; Flagstaff, 1; and Emma, 4. Colorado Terrible is, however, firmer, at 2½ to 2½.

Anglo-American mining, it is perhaps needless to say, is in great disrepute at present. This is to some extent justified by the misfortunes of imprudent investors in "Wild Cat" schemes, but what attention may be called to is the most disastrous effect it is having on really valuable properties, honestly managed, which happen to be in need of capital at present. The I.X.L. Company may be particularised; it possesses 4510 feet of gold and silver bearing lode, within a few miles, and it is believed on the same mineral belt, as the world-famed "Comstock Lode." This company, as announced last week, desire 30,000/- at present on 12 per cent. first mortgage bonds of 20/- each, redeemable in two years, with interest payable quarterly, to enable it to bring the mine into a dividend-paying state, and it is understood the public are not responding to this appeal, at least to the extent required. Investors, therefore, in this description of promising mineral property would do well to give their attention to these bonds, which will be found to present more than usual attractive features. The following extract is from the manager's report, which it may be stated is sworn to as correct by every miner in Silver Mountain (where the mine is situated),

ribble higher at 2½ to 2¾. Dunsley Wheal Phoenix, 2s. to 4s. Glasgow Caradon original, 26s. to 28s.; 10s. new shares, 17s. to 19s. Gunnislake (Clitters) rather offered at 13s. to 15s. Huntingdon done at 4s., closing 45s. to 47s. Javali lower, at 3½ to 4½. Monkland ordinary, 56s. to 57s., being a trifle higher, but 7 per cent. guaranteed preferences lower, changing hands at 63s. Omoa and Cleland, 48s. to 48s. Tharsis flat, done from 24s. to 24s., closing 23½ to 23¾. New shares also lower, done at 16, closing 16 to 16½; this fall is owing to a rumour that the Spanish Government contemplate a tax on copper. West Maria and Fortescue firm, at 3½ to 3½, can paid. Scottish Wagon (all paid), done at 12s.

On MONDAY (being contango-day) a small business was done. Bonbar (all paid) done at 10, closing 10 to 10½. Dunsley Wheal Phoenix firm, at 2s. to 4s. Ebbw Vale done at 17, closing 17 to 17 1/2. Emma flat, done at 37s. 3d., closing 37s. to 37s. 6d. Flagstaff also lower, at 1½ to 2½. Glasgow Port Washington (all paid) better, done at 31s., closing 30s. to 31s. Huntington steady at 45s. to 47s. Javali weak, at 3½ to 4½. Marbella, 83s. to 85s. Monkland ordinary, steady, at 56s. to 57s. Richmonds Consols flat, at 12½ to 13½. Scottish Australian better, at 13½ to 14½. Tharsis done at 23½ and 24, closing at these prices. New shares done at 16. Young's Paraffin, 5 to 5½. The following were the rates of continuation current to-day:—Contango, 1d., 1½d., 2d., 1d. on Canadian Copper Pyrites, 1d., 1½d. on Emma, 1d., 1½d. on Glasgow Caradon, 3d. on Glasgow Port Washington, 2d. on Huntington, 4d., 4½d. on Marbella, 2d. on Monkland ordinary, even 3d., 6d., 9d. on Tharsis (all paid), 9d. on Tharsis new. Backwards, 2s. 6d. on Shoots iron stock. There is no particular change in these rates when compared with those current at last settlement; it may be noted, however, that the contangoes on Emma and Marbella are a trifle stiffer, while those on Glasgow Port Washington and Huntington are easier.

On TUESDAY the account opened for settlement 30th inst., Tuesday, 27th inst., will be contango-day: a moderate business was done. Almada and Trito, 3½ to 4½. Australasian Mines Investment offered at par. Canadian Copper Pyrites done at 40s., closing 40s. to 41s. Ebbw Vale done at 17 to 17½. Emma done at 36s., closing 35s. to 36s. Glasgow Port Washington (all paid) done at 1½. Huntington, 45s. to 46s. Javali firm at 9s. to 11s. Monkland ordinary, 56s. to 57s.; Mwyndy Iron Ore remain at 1½; the directors have just paid an interim dividend of 2s. per share, being the same as at this time last year. Omoa and Cleland have advanced to 49s., 50s. Panulicke lower at 1 to 1½. Richmonds done at 12½, closing 12½ to 13. Tharsis done from 24½ to 24 1/2, closing 24 to 24½. Young's Paraffin done at 5½, closing 5½ to 5½; Yorke Peninsula ordinary, 3½ to 4½. Scottish Wagon, all-paid, higher at 12½ to 12½.

On WEDNESDAY a larger business was done. Arniston done at 6½, closing 6½ to 6½. Benhar new (5½ paid) shares done at par. Canadian Copper Pyrites opened lower at 38s. 6d., but recovered to 40s., closing 40s. to 40s. 6d. Colorado Terrible 2½ to 2½. Ebbw Vale, 16½ to 17½. Emma done at 3½, closing 35s. to 37s. Flagstaff lower at 1½ to 1½. Glasgow Caradon, original, done at 26s. 6d. Gunnislake (Clitters) remain at 13½ to 15½. Huntington lower, done at 44s. and 45s., closing at these prices. Marbella done at 83s. 6d., closing 83s. to 84s. Monkland ordinary done at 56s., closing 55s. 6d. to 58s. Omoa and Cleland done at 49s. and 50s. Richmonds lower at 12½ to 13; the following telegram having been received from the mine at Eureka, Nevada:—“Weeks run, \$45,000.” Scottish Australian 1½ to 1½. Tharsis done at 23½ to 23½, 23½, and 24, closing about 24. Yorke Peninsula ordinary lower, at ½ to ¾. Scottish Wagon, all-paid, again lower, at 12½ to 12½.

The following are this week's prices of some stocks, shares, &c., occasionally dealt in on this market, but not quoted (with few exceptions) on any of the Scotch Stock Exchanges:—Iron, Steel, and Coal Companies: Andrew Knowles and Sons, 23½; Britannia Iron-works, 10; Cardiff and Swansea Steam Coal, 3½; Chapel House Colliery, 3½ to 4½; Great Western Colliery, 9; Lehigh and Wilkes Barre 6 per cent. first mortgage, guaranteed by Central Railroad of New Jersey (A.S.), 89½; Llynni, Tondu, and Ogmore Coal and Iron, 26; Mwyndy Iron Ore, 2½; Newport Abercarn Colliery, 3; New Sharston Collieries, preferred, 5½; Powell's Llanwit Colliery, 2 to 3; Scottish Australian Mining, new shares, 5½ to 6½; South Cleveland Ironworks, 4; Ulverstone Mining, 10½; West Cumberland Iron and Steel, 9½; Copper, Lead, Tin, &c., Companies: Almada and Trito, 3½; Bensberg Lead, 3½; Bowden Hill Manganese, 3½; Copiata Mining, 3½; Court Grange Lead, 3½; Drake Walls, 6; Great Laxey, 14½; Gunnislake (Clitters) 1½, 1½, 3; Lady Constance Lead, 1; New Consols, 2½; New Quebrada, 3½; North Hendre Lead, 3 to 4; Plymlimon Lead, 7 1/2; South Roskar, 6½; West Esgrair Lle, 1; West Maria and Fortescue, 3½; Wheal Mary Hutchings, 3½; Yorke Peninsula Mining, 15 per cent. guaranteed preference, 3½; Yorkshire Mining, 3½ to 4½; Gold and Silver Companies: Australasian Mines Investment, ½; Battle Mountain, 2½; Chontales Consolidated, ½; ditto new shares, 3½; Colorado Terrible Lode, 2½; Don Pedro North de Rey, 11½-12ths; Eberhardt and Aurora, 8½; Exchequer, 3½; Frontino and Bolivia, 5½; Javali, 3½; Pestarena United, ½ to ¾; Port Phillip and Colonial, 13-16ths; Rica, ½ to ¾; Santa Barbara (late Par), ½; St. John del Rey, 39; South Aurora, 7-18ths; Tecoma, 3½; United Mexican, 2½; Welsh, “The” Gold, 3½; Winter's Freehold, 2 to 5—Oil Companies: Flintshire Oil and Cannel, 1 to 2; Midlothian, 3½; West Calder, 1½; Miscellaneous Companies: Aberdeen Lime, 15½; Bede Metal and Chemical, 3½ dis.; Conglog Slate and Slab, 10½; General Sewage and Manure, 9; Langdale's Chemical Manure, 5½; Law's Chemical, 6; Native Guano, 6½; Newcastle Chemical, 1½ dis.; North Cornwall Kaolin, 1; Phospho Guano A, 7; ditto B, 2; Thariss Chemical, 5; and subjoined are the latest prices, &c., of those quoted on the Stock Exchanges:—

| COAL, IRON, STEEL. | | Latest price. |
|-----------------------------|--|---------------|
| Amount of share, paid up. | Name. | |
| £10 ... 6 | Arniston Coal (Limited) | 6½ |
| 10 ... 10 | Benhar Coal (Limited) | 10 |
| 10 ... 5 | Ditto | 5 |
| 100 ... 35 | Bolekow, Vaughan, and Co. (Limited) | A. 50½ |
| 10 ... 9 | Calnrbith Gas Coal (Limited) | 8½-16 |
| 10 ... 10 | Chillington Iron (Limited) | 5½ |
| 32 ... 29 | Ebbw Vale Steel, Iron, and Coal (Limited) | 17 |
| 10 ... 4 | Fife Coal (Limited) | 4 |
| 10 ... 8 | Glasgow Port Washington Iron and Coal (Limited) | 11½ |
| 10 ... 10 | Ditto All paid | 33½ |
| 10 ... 10 | Lochore and Capledrae (Limited) | 5½ |
| 10 ... 10 | Marbella Iron Ore (Limited) | 83s. 6d. |
| 10 ... 10 | Monkland Iron and Coal (Limited) | 55s. 6d. |
| 10 ... 10 | Ditto 7½ per cent. Guaranteed Preference | 63s. |
| 100 ... 100 | Nant-y-Glo and Blaina Ironworks pref. (Limited) | 44½ |
| 100 ... 100 | Omoa and Cleland Iron and Coal (Limited) | 21½ |
| 1 ... 1 | Scottish Australian Mining (Limited) | 13½ |
| 50 ... 60 | Shoots Iron | 72 |
| 10 ... 6 | Ditto New, issued at 2½ premium | 7½ |
| COPPER, LEAD, SULPHUR, TIN. | | |
| 10 ... 7 | Canadian Copper Pyrites (Limited) | 2 |
| 10 ... 10 | Ditto All paid | 6½ |
| 10 ... 7 | Cape Copper (Limited) | 34 |
| 2 ... 2 | Dunsley Wheal Phoenix Tin (Limited) | 2s. |
| 1 ... 1 | Glasgow Caradon Copper Mining (Limited) | 26s. 6d. |
| 1 ... 15s. | Ditto New | 19s. |
| 10 ... 9 | Huntington Copper and Sulphur (Limited) | 43s. |
| 25s. ... 23s. | Kapunda Mining (Limited) | ½ |
| 4 ... 4 | Panuelillo Copper Mining (Limited) | 13½ |
| 10 ... 10 | Rio Tinto (Limited) | 7½ |
| 10 ... 10 | Russian Copper Mining (Limited) | 2½ |
| 10 ... 7 | Ditto New | 16 |
| 1 ... 1 | Yorke Peninsula Mining (Limited) | 6s. 3d. |
| GOLD, SILVER. | | |
| 20 ... 20 | Emma Silver Mining (Limited) | 36s. |
| 10 ... 10 | Flagstaff Silver Mining (Limited) | 36s. |
| 5 ... 5 | Last Chance Silver Mining (Limited) | 1½ |
| 5 ... 5 | Richmond Mining (Limited) | 12½ |
| OIL. | | |
| 10 ... 7 | Dalmeny Oil (Limited) | 11s. 6d. |
| 10 ... 10 | Uphall Mineral Oil (Limited) | 3 |
| 10 ... 10 | Young's Paraffin Light and Mineral Oil (Limited) | 5½ |
| MISCELLANEOUS. | | |
| 50 ... 25 | London and Glasgow Engineering & Iron Shipbuilding | 19 |
| 20 ... 9½ | Peruvian Nitrate (Limited) | 7 |
| 10 ... 10 | Scottish Wagon Company (Limited) | 12½ |
| 10 ... 4 | Ditto New | 9s. |

Last day for this account July 27; settling day, July 30.

NOTE.—The above list of mines and auxiliary associations is as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them and such information as can be ascertained from time to time to be inserted in this list, they will be good enough to communicate the name of the company with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, July 15.

LONGDEN'S LIST.

WANTED:—
NON-CUPREOUS PYRITES.
ANTIMONY ORE—good.
MANGANESE—ready for shipment.
FOR SALE:—
SILVER-LEAD SETT.
1400 tons of BLEND, containing SILVER.
LARGE LOT OF NICKEL ORE, rich also for COBALT.
HENRY LONGDEN, MINING EXPERT,
18, COLEMAN STREET, LONDON, E.C.

REDUCTION OF PRICES.

PORTABLE ENGINES, ready for immediate delivery:—
SINGLE CYLINDER ENGINES. DOUBLE CYLINDER ENGINES.
7 h.p. with 9 in. cylinder. 9 h.p. with 2 ½ in. cylinders.
8 h.p. with 9½ in. cylinder. 10 h.p. with 2 ¾ in. cylinders.
10 h.p. with 10½ in. cylinder. 12 h.p. with 2 ½ in. cylinders.
14 h.p. with 2 ½ in. cylinders. 20 h.p. with 2 ½ in. cylinders.

VERTICAL ENGINES, COMBINED WITH BOILERS:—2 h.p., 3 h.p., 4 h.p.
Prices and full particulars free on application.

LEWIN, POOLE WORKS, DORSET.

GROSSEYOR, ENTWISLE, AND CO.,
(LATE GROSSEYOR AND CO.),
STOCK AND SHARE BROKERS,
88, PORTLAND STREET, MANCHESTER.

IN THE MATTER OF THE COMPANIES ACTS, 1862 AND 1867;

AND OF THE

FAIRBAIRN ENGINEERING COMPANY (LIMITED).

THE CREDITORS of the ABOVE-NAMED COMPANY are required, on or before the 2nd day of August, 1875, to SEND THEIR NAMES AND ADDRESSES, and the particulars of their DEBTS or CLAIMS, and the NAMES and ADDRESSES of their SOLICITORS (if any), to Sir THOMAS FAIRBAIRN, Baronet, and AUGUSTUS HENRY NOVELL, Esquire, the Liquidators of the said company, at 16, New Broad-street, in the City of London; and, if so required by notice in writing from the said Liquidators, are, by their solicitors, to COME IN AND PROVE their said DEBTS or CLAIMS, at the Chambers of the Vice-Chancellor Sir RICHARD MALINS, at No. 3, Stone Buildings, Lincoln's Inn, in the county of Middlesex, at such time as shall be specified in such notice; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such debts are proved.

Friday, the 6th day of August, 1875, at Twelve o'clock noon, at the said Chambers, is appointed for hearing and adjudicating upon the debts and claims.

ALFRED RAWLINSON, Chief Clerk.

CUNLIFFE AND BEAUMONT, 42, Chancery-lane.

Dated this 9th day of July, 1875.

ROCKS TIN MINE, ST. AUSTELL, CORNWALL.

NOTICE TO CREDITORS.

ALL PERSONS claiming to be CREDITORS of the ROCKS TIN MINING COMPANY are required, on or before the 6th day of August next, to SEND IN their NAMES and ADDRESSES, and the full particulars of their SEVERAL CLAIMS on the said company, to the undersigned, Messrs. HODGE, HOCKIN, and MARRACK; or, in default thereof, they will be EXCLUDED from the BENEFIT of the DISTRIBUTION of ASSETS, proposed to be made shortly after the said 6th day of August, 1875.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated July 14, 1875.

SALE OF BROWN-COAL MINES.

THE BOARD OF ADMINISTRATION of the DUX-BRUX-KOMOTANER BRAUNKOHLEN-BERGBAN-ACTIENGESSELLSCHAFT (DUX-BRUX-KOMOTANER BROWN COAL MINING JOINT STOCK COMPANY) hereby announces that, in accordance with a resolution of the General Meeting of June 20th current, A PART OF THE VAST MINING PROPERTY of this company is to be OFFERED FOR SALE.

Purchasers are requested to apply for the terms of sale, &c., to the Bergwerks Direction (Mining Directory) of the Company in Brux; or to the Central Bureau in Prag (Ferdinand-strasse, 25). Payments may be made in part in stocks of the company.

Written enquiries will be promptly answered.

THE BOARD OF ADMINISTRATION.

CARDIGANSHIRE.

THE ESGAIR-HIR SILVER LEAD MINE TO BE SOLD BY TENDER.

TENDERS are invited for the PURCHASE of the SETT, LEASES, PLANT, and MACHINERY of a very valuable MINING PROPERTY, known as

ESGAI R-HIR MINE,

Situated in a celebrated Mineral District, in the county of Cardigan, near the important town of Aberystwith, the thriving village of Talybont, and about seven miles from the Llanfihangel Station on the Cambrian Railway.

The sett is very extensive, and the lodes are large, and have yielded many thousands of tons of ore at and above the 20 ft. level, which was the deepest point worked on before the present company became possessed of the property. About £8000 worth of ore has been taken from a short driving west; and in order to further develop the property the main shaft has been sunk 30 ft. below the deepest point of the old workings, and in the opinion of competent mining engineers who have inspected the property, all that remains to be done to make it a great and lasting property is to explore the lodes.

The Mine is held under a lease from Sir Pryse Pryse, Bart., of Gogerddan, of which eighteen years are unexpired, at a royalty of 1½d. for the first four years, and 1½d. for the remaining fourteen years, and is plentifully supplied with water.

Tenders to be forwarded on or before the 31st day of July next to Mr. GEORGE JOACHIM, of 28, Cornhill, London, but the vendors do not bind themselves to accept the highest or any tender.

Further particulars, and a copy of the inventory of the machinery and plant, and orders to inspect the property, may be obtained of Mr. F. WILLIAMS, Esq., of the Royal Engineers, 18, Grosvenor Gardens, London; or of Messrs. HUGH HUGHES and SON, Solicitors, 10, Grosvenor Gardens, London.

The committee do not bind themselves to accept the highest or any tender.

Dated 9th July, 1875.

TALAR GOCH LEAD MINE.

THE TALAR GOCH LEAD MINE, the celebrated MINE known as the TALAR GOCH MINE, situate near RHYL, NORTH WALES, which has been worked for a number of years with great success. Over 20,580 tons of lead ore and 13,000 tons of

JULY 17, 1875.

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THE MINING JOURNAL.

SNEYD COLLIERY, BURSLEM.

MESSRS. FERGISON AND SON WILL SELL, BY AUCTION, at the Railway Hotel, Stoke-upon-Trent, Staffordshire, on Thursday, the 26th day of July, 1875, at Four o'clock in the afternoon, unless previously disposed of by Private Contract, and subject to conditions to be then produced, all the ESTATE and INTEREST of Messrs. C. and J. MAY, as lessees from the Right Honourable the Earl of Macclesfield, of and in all those well-known and valuable COAL and IRONSTONE WORKS, called the

SNEYD COLLIERY,

Situate close to the town of Burslem, inclusive of the ENGINES and WORKING PLANT, PIPE and BRICK WORKS, OILWORKS, LIME KILNS, UNDER-GROUND RECOVERIES, and WORKS.

This Colliery, containing in a ring fence upwards of 180 acres, is in full operation, and is held by the present Lessees on a 21 years' lease from the 25th of March, 1871, at moderate royalties, and on a minimum or dead rent (lapsing into royalties) of £1000 per annum. The lease also contains a provision with reference to the valuable seams of coal known as the Norton Section of Mines, which are entirely intact, whereby the lessees are entitled to priority in treating with the lessor for a lease thereof. The lessor's mining agent, Mr. Bean, has by a recent report fixed the royalties to be paid for such Norton Section for a term of 40 years on a moderate scale.

Arrangements, it is believed, can be made to lease the Norton Section of coals in several adjoining collieries.

In addition to the Coal and Ironstone Works, there are large and well-arranged Fire Brick, Quarry, and Sanitary Pipe Works, at which, as well as on other parts of the property, extensive and profitable businesses may be carried on. The works may be increased most advantageously, the demand for the articles produced having far outstripped the present means of production.

These Works are also beneficial to the working of the colliery, as they ensure a regular custom for a large amount of coal and slack. A profitable business has also been done in supplying ground marl to the neighbouring manufacturers. This branch can be much increased, the demand being great, and the supply of marls (which are noted on this estate for their superior quality) being, when opened out, literally inexhaustible.

In addition, there is an Oil Distillery erected at an outlay of over £5000, containing 40 retorts capable of producing from the shales that exist in abundance on the estate 24 tons of crude oil per week. By a small outlay in the erection of a refinery the crude oil can be converted, with much advantage, into paraffin and the various products of the oil shales. A portion only of the purchase-money would be required to be paid on completion; the remainder can remain on proper security.

Copies of the Lease, and Plans, and Sections of the Property and Mines, and the Mining Surveyor's reports can be inspected at the offices of Messrs. CHALLINOR and the Co., Solicitors, Leek; and full information can be obtained from Mr. R. STEELE, of Hanley, Mining Surveyor; or on application to Mr. A. BOULTON, 140 Waterlooo Road, Burslem; or to Messrs. CHALLINOR; or Mr. SHAW, Solicitor, Leek.

VALUABLE MINING PROPERTY.

THE WELL-KNOWN CONISTON AND TILBERTHWAITE COPPER MINES IN NORTH LANCASHIRE.

T. M. FISHER, SONS, AND CO. are instructed TO SELL, as a GOING CONCERN, at the Clarence Hotel, Spring Gardens, Manchester, on Tuesday, the 3rd August, 1875, at Four for Five o'clock in the afternoon, in One or more Lots, may be decided upon, subject to conditions of sale to be then produced, all those valuable and extensive MINING PROPERTIES, known as the CONISTON AND TILBERTHWAITE COPPER MINES.

The FREEHOLD BUILDINGS at CONISTON comprise FORTY-ONE NEW HOUSES (with outbuildings and gardens), in four blocks, pleasantly situated in the village, and near the railway station.

The LEASEHOLD BUILDINGS, which are at the Mines, include THIRTEEN COTTAGES, complete Suite of Offices, Board and Managers' Rooms, Pay Offices, Changing Rooms, Cooking Kitchens, Powder Magazine, Storehouses for Material and Dressed Copper, large Smith's Shop, fitted with seven hearths, Carpenters' Shop and Saw Mill, Stables, Mill-houses, and large sheds for stamps and jigger machines, and several ranges of shedding for sorters and dressers.

The Copper Station is situated about three-quarters of a mile from the principal dressing-floors, and at the terminus of the Coniston branch of the Furness Railway, with sheds for unloading the ore, large sampling floors, and platform over siding for loading several trucks, office, &c.

The PLANT includes THIRTEEN large overshot WATER WHEELS, varying from 12 to 45 ft. diameter, THREE small WATER WHEELS, Crushing Mills, Screens and Elevators, Jigging Machines, Stamping Mills, Tramways and Hoists, Iron Wagons, Carts, &c.

The Coniston mining sett is about three miles square, the lodes are numerous and well defined, and as the present workings have been confined to three or four lodes, a large part of the sett is undeveloped. The mines are now in partial work only, and the present returns average about 100 tons of ore per month.

The water power is almost unlimited, as a level has been driven into a mountain tarn of about 45 acres area, called Lever's Water, from which, in addition to the mountain streams, a large supply of water is drawn. No steam power is required, and the only costs are at the smelting shops.

The present lease of the Coniston sett expires in 1880. The royalty is 1-18th, without any surface rent, and a renewal of the lease on the same terms can be obtained.

Tilberthwaite Mines comprise a large area, adjoining Coniston. The deep level is driven 1000 yards, and unwaters a large district; the lodes are only partially opened on. There is a large vein of slate rock of good quality near the level mouth, for which offers to work have recently been made, and the supply of water is most ample. These mines are held on lease, of which ten years are unexpired, at a minimum rent of £60, merging in a royalty of 1-18th.

The buildings on the Tilberthwaite Mines are Mill House, Smith's Shop, Copper Shed, and shedding for sorters, &c.; and the PLANT embraces TWO large WATER WHEELS, 12 and 32 ft. diameter, new Crushing Mill, with revolving Screens and Elevators, Jigging Machines, Iron Wagons, &c.

The mines have been worked for many years by an ordinary trading partnership, and have paid large profits. They are now offered for sale in consequence of the advanced age of some of the partners, and of the decease of others, whose representatives are not in a position to expend the necessary capital for further developing the mines, and providing the requisite additional machinery for economically working the same. A very considerable sum has been laid out in opening the mines, of which the purchaser would reap the advantage.

The rental of the houses and cottage property is about £250. The mines, plans, and property can be inspected on application to Mr. BENNETT JONES, or to Capt. BAWDEN, at the offices, on the Mines; and any further particulars and information, with catalogue of machinery and plant, may be obtained in London at the MINING JOURNAL Office, 26, Fleet-street; and from Messrs. THOMAS BREALEY and SON, Surveyors, Leek; the Auctioneers, 29, Blackfriars-street, Manchester; or HARRY ARNOLD, Esq., Kendal.

MOLD, FLINTSHIRE.

SALE of the INTEREST of the MOLD MINES (LIMITED), as Lessees in the well-known MOLD LEAD MINES, situate at Cat Hole and Gwernymynydd, near to the town of MOLD, together with the WHOLE of the very VALUABLE ENGINES, PLANT, and MACHINERY belonging thereto.

M. S. CHURTON, ELPHICK, AND CO. beg to announce that they have been favoured with instructions from the directors of the above company TO SELL, BY AUCTION, at the Black Lion Hotel, in the town of Mold, on Wednesday, the 4th day of August, 1875, at Two for a quarter past Two o'clock in the afternoon, prompt, in One Lot, and subject to conditions to be then produced, the

INTEREST OF THE MOLD MINES (LIMITED),

Of and in their TAKE of LEAD, LEAD ORE, and matters wherewith to make lead in and under a considerable tract of land of nearly 1/4 mile in length, as well as in the ENGINE HOUSES, OFFICES, BUILDINGS, SHAFTS, and LEVELS thereto and therein, together with the whole of the extremely valuable PLANT and MACHINERY belonging to the mines, comprising an 86 inch beam PUMPING ENGINE on the Cornish principle, with 22 and 24 inch pumpings, and corresponding pit work 200 yards deep, 18 inch bottom WINDING ENGINE, with link motion; donkey engine, crushing mill, jiggling machines, water wheel, weighing machines, capstans, pit head, wire and other ropes, and a considerable number of other mining articles, the whole being in first-rate condition.

These mines which are held by the company at low royalties and free of dead rent, under an agreement for a lease from the Lord of Mold for a period of 21 years from the 26th of March, 1870, consist of a fine range of lead mines, within 2 miles of Mold, and are respectively known as Cathole, Pilkington, Deborah, and Gwernymynydd, and they have the reputation of being one of the richest fields of mineral wealth in the Principality of Wales.

Upwards of £30,000 have within the last few years been spent in opening out two of the mines and on the plant and buildings at the western portion of the property.

The mines are well known to, and have at various times been reported on by Mr. Darlington, of the Minera Mines, Mr. Edward Hull, F.G.S., of the Geological Survey of Great Britain, Messrs. Woodhouse and Jeffercock, Mr. Arthur Waters, Mr. Walter Eddy, Mr. Dennis, and Mr. A. Francis, mineral surveyors, and the late Mr. Robert Williams, who was agent to the Lord of Mold, and they all concur in regarding this as an exceedingly valuable property.

Further particulars can be had on application to Messrs. KELLY, KEENE, and ROYCE, Solicitors, Mold, where also a plan of the estate, and a schedule of the plant and machinery, can be seen; or to the Auctioneers, Chester and White-church (Salop).

TO BE SOLD, BY AUCTION, by MR. JOHN CHURTON (of the firm of Churton, Elpwick, and Co.), the person appointed by the Vice-Chancellor Sir RICHARD MALLIN, to whose Court the winding-up of the Matter of the HOLYWELL LEVEL SILVER LEAD MINING COMPANY (LIMITED), and in the Matter of the Companies Acts, 1862 and 1867, is attached at the Queen's Hotel, in the City of Chester, on Saturday, the 7th day of August, 1875, at Two for Three o'clock in the afternoon, in One Lot. Certain FREEHOLD HEREDITAMENTS, with the MINES and MINERALS therein situate at Holywell, in the county of Flint, containing 4, 2, 9, and 17 P., or thereabouts.

Also the FREEHOLD MINES and MINERALS lying under two small pieces of land adjoining the before-mentioned hereditaments, and containing respectively 28, 19 P., and 1, 17 P., or thereabouts.

Also the LESSEES' INTEREST in the MINES and MINERALS lying under plant, fixed and moveable machinery, stock in trade, and other articles now in or upon the said premises.

The several properties may be viewed on application to, and particulars and conditions of sale when ready, may be had gratis of Mr. JOHN STANLEY BLEASIE, Commerce Chambers, Lord-street, Liverpool, accountant, the Official Liquidator of the Company; Messrs. GREGORY, ROWCLIFFES, and RAWLE, 1, Bedford-row, Liverpool, solicitors; Messrs. DUNCAN, HILL, and DICKINSON, 10, Water street, Liverpool, solicitors; Messrs. CHURTON, ELPHICK, and CO., Foregate-street, Chester, auctioneers, and at the said hotel.

E. W. WALKER, Chief Clerk. (Agents for Duncan, Hill, and Dickinson, Liverpool, Solicitors for the Official Liquidator)

Date 10th day of July, 1875.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

PURSUANT to a Decree made in the Cause of JAMES V. DYSON, the CREDITORS in respect of the BODENNICK IRON MINE, in the parish of St. Stephens-in-Bramwell, within the said Stannaries, are, on Saturday, the 24th day of July instant, at Eleven o'clock in the forenoon, TO COME IN and PROVE their DEBTS, before the Registrar of the said Court, at his office, in Truro; or, in default thereof, they will be peremptorily EXCLUDED from the BENEFIT of the said Decree. J. G. CHILCOTT, Plaintiff's Solicitor, Truro. Dated Registrar's Office, Truro, 13th July, 1875.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the GREAT SOUTH CHIVERTON MINING COMPANY.—By direction of His Honor the Vice-Warden, Notice is hereby given, that on the 31st day of July instant, at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will proceed to MAKE a CALL of FIFTEEN SHILLINGS PER SHARE on all the contributors of the said company, settled on the List of Contributors as present members thereof.

All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.

JOHN HENRY HAMLEY, Official Liquidator.

Dated Stannaries Court Office, Truro, July 14th, 1875.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH WHEAL CROFTY MINING COMPANY.—ALL CREDITORS or CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their several DEBTS on CLAIMS, at the Registrar's Office, Truro, on Friday, the 23rd day of July instant, at Eleven o'clock in the forenoon; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are either to attend in person, or by their solicitors or competent agents, at the time and place above mentioned.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, the 14th day of July, 1875.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the LEEDS AND ST. AUBYN MINING COMPANY.—By the direction of His Honor, the Vice-Warden, Notice is hereby given, that on the 29th day of July instant, at the Registrar's Office, at Truro, in the county of Cornwall, merchant, on behalf of himself and his partners, Martin Tredinnick, Hitchens, William Michell Grylls, John Harvey Trevithick, Richard Boys, David Wise Bain, William Bickford Smith, and Thomas Willis Field, carrying on business at Pool, in the parish of Illogan, in the said county of Cornwall, as candle manufacturers, under the style or firm of "The Cornwall Candle and Tallow Company," claiming to be creditors of the said company, and that the said Petition is directed to be heard before the Vice-Warden, at the Prince's Hall, in Truro, within the said Stannaries, on Friday, the 6th day of August next, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioners, their solicitors, or his agents, of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioners, their solicitor, or his agents, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 4th day of August next, and notice thereof must at the same time be given to the petitioners, their solicitor, or his agents.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall Agents for S. T. G. Downing, Redruth

Dated Truro, July 10th, 1875. (Petitioners' Solicitor).

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the PARBOLA MINING COMPANY.—Notice is hereby given, that a PETITION for the WINDING-UP of the above-named company by the Court, was, on the 6th day of July instant, presented to the Vice-Warden of the Stannaries by Alfred Lanyon, of Redruth, in the county of Cornwall, merchant, on behalf of himself and his partners, Martin Tredinnick, Hitchens, William Michell Grylls, John Harvey Trevithick, Richard Boys, David Wise Bain, William Bickford Smith, and Thomas Willis Field, carrying on business at Pool, in the parish of Illogan, in the said county of Cornwall, as candle manufacturers, under the style or firm of "The Cornwall Candle and Tallow Company," claiming to be creditors of the said company, and that the said Petition is directed to be heard before the Vice-Warden, at the Prince's Hall, in Truro, within the said Stannaries, on Friday, the 6th day of August next, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioners, their solicitors, or his agents, of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioners, their solicitor, or his agents, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 4th day of August next, and notice thereof must at the same time be given to the petitioners, their solicitor, or his agents.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall Agents for S. T. G. Downing, Redruth

Dated Truro, July 10th, 1875. (Petitioners' Solicitor).

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the MID-CORNWALL MINES (LIMITED).—TO BE SOLD, under the direction of the Registrar of the said Court, by PUBLIC AUCTION, on Monday, the 26th day of July, at Eleven o'clock in the forenoon precisely, at the CORNUBIA TIN MINE, in the parish of Roche, within the said Stannaries, subject to such conditions and in such lot or lots as shall be then and there stated, all that the interest of the mining company known as the said Mid-Cornwall Mines (Limited) in the several SETTS or LEASES under which the mining operations of the said company have been carried on, together with the whole of the valuable and extensive PLANT, MACHINERY, MATERIALS, and EFFECTS,

including all such ores at surface as shall be specified by the auctioneer at the time of sale, belong to the said company, and comprising as follows:—

AT THE CORNUBIA TIN MINE.—50-in. cylinder beam engine, 5-ft. stroke in cylinder by 8 ft. in shaft, two boilers about 22 tons, including new perpendicular piped engine, together with first piece of rod and main cap and balance bob, shears, eight arm capstan, 17 fms. 12 in. capstan rope, second, third, and fourth pieces of main rod, iron balance rod, whim cage, 23 1/4-in. pumps, 21 13-in. ditto, several other pumps, stampa wheel, 30 ft. in diameter, and other water-wheels, and a large quantity of timber and iron.

AT THE MAGNETIC IRON MINE.—10-in. vertical cylinder engine, 21 in. stroke, by fly wheel; two balance-bobs, connecting rods, crown wheel, spur wheel, also 6 tons of boiler, with furniture; weigh bridge and house, to weigh 10 tons; pumps, and sundry timber and iron.

AT THE LANJEW IRON MINE.—14-in. horizontal 4 ft. stroke double acting condensing engine, with 11-ft. fly-wheel, wrought-iron arms, air pump, feed plunger, two balance-bobs, connecting rods, 9 ton boiler, engine and boiler-house, pumps, and a large quantity of iron ore.

AT THE BURNLEY-HOUSE MINE.—7-in. cylinder portable threshing machine, with wheels, also crown wheel, balance-bobs and connection rods, house lift, H piece, pumps, flat-rods, main rods, plunger-lift, shaft tackle, 40-ft. shears, and a large quantity of iron ore.

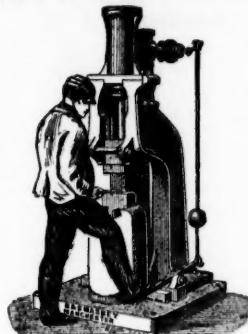
AT THE HALLEW IRON MINE.—48-in. double-acting cylinder steam-engine, 8 ft. stroke, with fly-wheel, two balance-bobs, travelling bob, horizontal rod, two balance-bobs, connecting rods, 9 ton boiler, engine and boiler-house, pumps, and a quantity of iron and miners' tools.

AT THE GREAT BEAM TIN MINE.—36 ft. long, 3

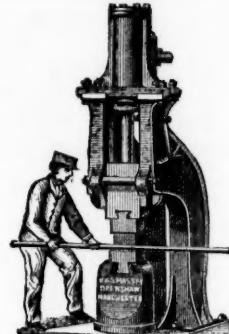
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PRIZE MEDALS AWARDED:—Paris, 1867 Havre, 1868 Highland Society, 1870; Liverpool, 1871; Moscow, 1872; Vienna, 1873.

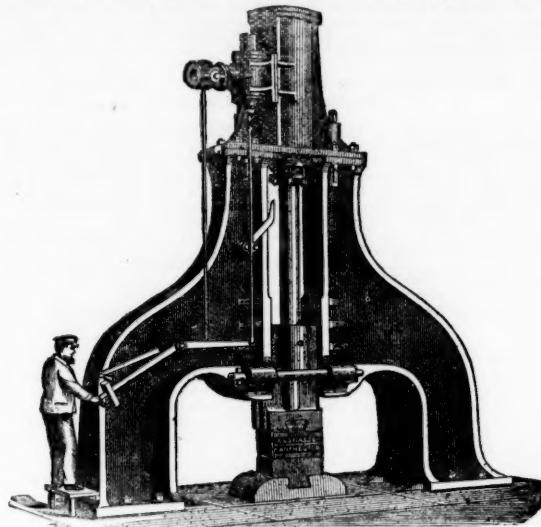
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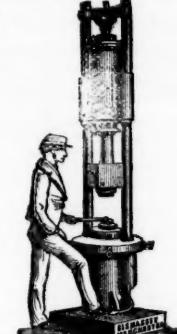
Small Hammer with Foot Motion.



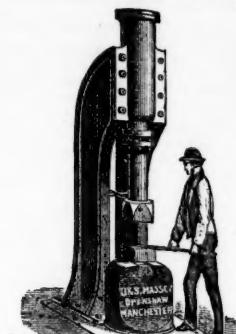
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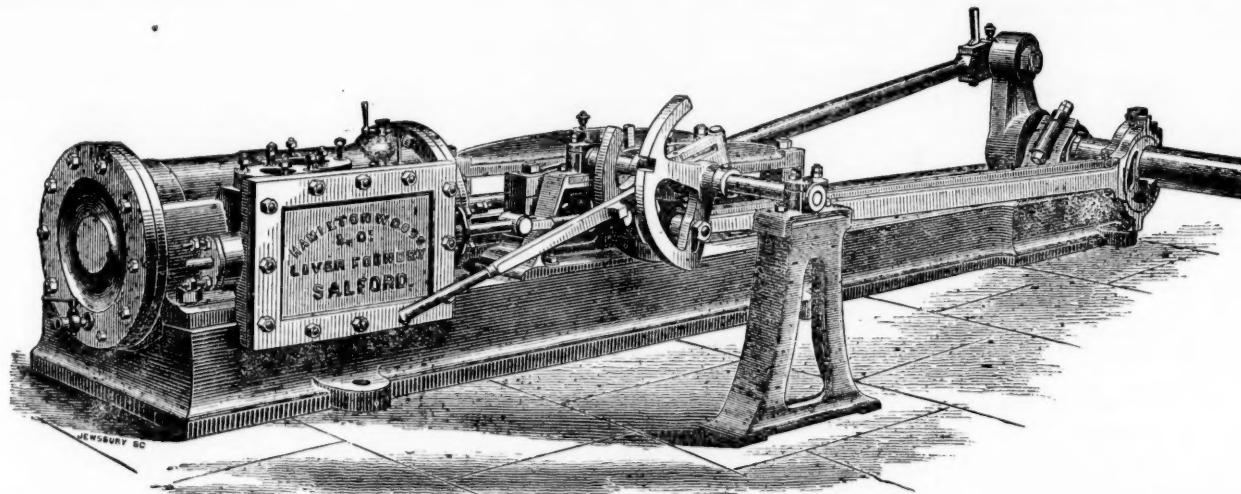


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ACCORDING TO THE NEW MINES REGULATION ACT.

BEST KNOWN MATERIAL.

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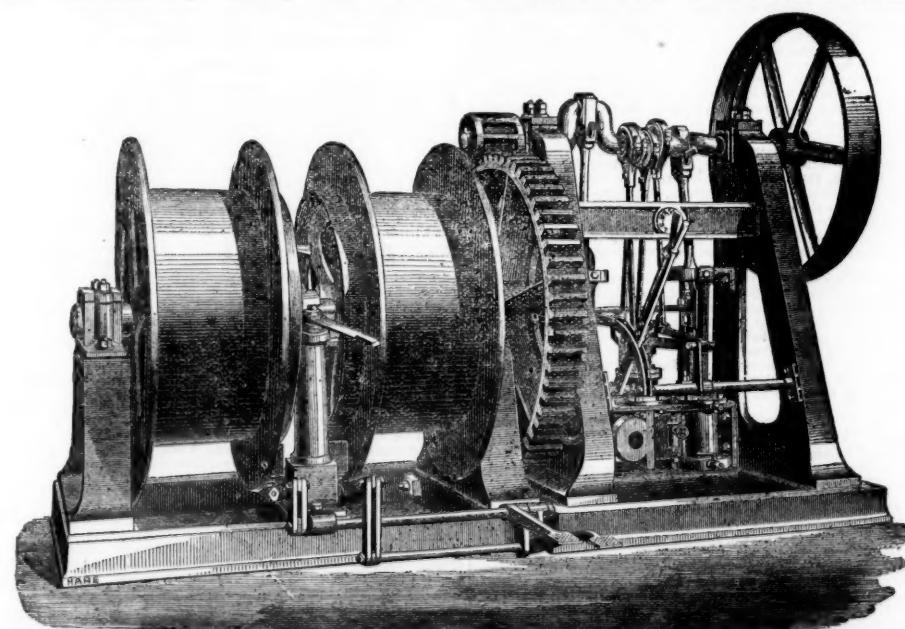
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IMPROVED DESIGN of Engine for HAULING, for use with either Steam or Compressed Air.

Takes less room, and can be supplied for less money, than any other Engine of same power.

May also be had with single drum for winding.

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FOR BLASTING PURPOSES, can now be supplied in packages, containing 50 lbs. each, for export to any part of the World.

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Is the CHEAPEST and MOST POWERFUL EXPLOSIVE for every kind of MINING and QUARRYING OPERATIONS; for blasting in hard or soft, wet or dry ROCKS; for clearing land of TREE ROOTS and BOULDER STONES; for rending massive BLOCKS of METAL; for SUBAQUEOUS and TORPEDO purposes; and for recovering or clearing away of WRECKS, &c.

ITS SAFETY is evidenced by the total ABSENCE OF ACCIDENTS in transit and storage; it is insensible to heavy shocks, its GIANT POWER being only fully developed when fired with a powerful percussion detonator, and hence its great safety.

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| Shares | Mines | Paid. | Last Pr. | Clos. Pr. | Total divs. | Per share. | Last paid |
|--|----------|----------|-------------|-----------|-------------|------------|-----------|
| 15,0 Alderley Edge, c, Cheshire* | 10 0 0 | — | 12 6 8 | 0 5 0 | Jan. 1875 | 10 0 0 | — |
| 30,000 Bampfylde, c, i, mn., Devon* | 1 0 0 | — | 1 7 1 | 0 2 0 | 0 2 0 | June 1873 | 10 0 0 |
| 6500 Blaen Caeau, s-i, Cardigan* (£4 sh.) | 3 10 0 | — | 0 10 9 | 0 | — | 1875 | 5 0 0 |
| 200 Blatbach, t, c, St. Just* | 116 5 0 | 47 1 | 45 47 1 | 619 15 0 | 5 0 | Aug. 1872 | 2 0 0 |
| 10000 Bronifoy, s-i, Cardigan | 1 7 6 | — | 2 2 0 | 0 0 | 6 | Jan. 1872 | 1 0 0 |
| 4000 Brookwood, c, Buckfastleigh | 1 16 0 | — | 3 6 6 | 0 4 0 | Mar. 1875 | 1 0 0 | — |
| 3240 Cargol, t, Newlyn* | 5 7 0 | 1 | 3 4 1 | 4 16 3 | 0 12 6 | Oct. 1872 | 1 0 0 |
| 6400 Casbrough, t, Cumberland* | 2 10 0 | — | 1 6 6 | 0 2 6 | Aug. 1873 | 1 0 0 | — |
| 1000 Carn Llara, t, Illogan* | 35 0 0 | 41 | 35 37 1 | 308 0 0 | 1 0 | Feb. 1874 | 1 0 0 |
| 6000 Cath. & Jane, t, Penrhyn-dreath* | 5 0 0 | — | 0 7 6 | 0 2 6 | June 1873 | 1 0 0 | — |
| 2450 Crook's Kitchen, t, Illogan* 1/2 | 20 19 9 | 6 | 4 4 3 | 11 17 0 | 0 2 6 | Jan. 1873 | 2 0 0 |
| 10240 Dev. Gt. Consols, c, Tavistock* 1/2 | — | 3 | 2 3 4 | 116 10 0 | 0 12 6 | May 1872 | 2 0 0 |
| 4546 Dolonth, c, Camerton* | 10 14 10 | 43 | 38 40 | 106 16 8 | 0 10 0 | June 1875 | 1 0 0 |
| 6500 Drake Walls, t, Calstock | 6 0 0 | — | 0 2 0 | 0 0 2 | July 1874 | 1 0 0 | — |
| 10000 East Baleswiden, t, Sancroed* | 1 0 0 | — | 0 2 11 | 0 0 2 | Feb. 1874 | 1 0 0 | — |
| 6144 East Carnon, t, St. Cleer* | 2 14 6 | — | 1 1 1 | 14 19 0 | 0 2 6 | Oct. 1872 | 1 0 0 |
| 300 East Darren, t, Cardiganshire | 32 0 0 | — | 228 10 0 | 1 0 | May 1875 | 1 0 0 | — |
| 6400 East Pool, t, Illogan | 9 0 9 | 16 | 14 14 1 | 13 13 0 | 0 2 6 | July 1875 | 1 0 0 |
| 1906 East Wheal Lovell, t, Wendron* 1/2 | 5 19 0 | 9 | 7 3 4 | 20 7 6 | 0 7 6 | Oct. 1874 | 1 0 0 |
| 2800 Foxdale, t, Isle of Man* | 25 0 0 | — | 80 15 0 | 0 10 0 | Sept. 1872 | 1 0 0 | — |
| 40000 Glasgow Cara, c, (£30,100 sh. pd.) | — | 196 | 13 13 1 | 8 7 4 | 0 1 6 | Jan. 1875 | 1 0 0 |
| 15000 Great Laxey, t, Isle of Man* | 4 0 0 | — | 14 15 1 | 18 3 0 | 0 8 0 | July 1875 | 1 0 0 |
| 25000 Great West Van, t, Cardigan* | 2 0 0 | — | 3 2 4 | 0 2 0 | 0 1 0 | Aug. 1874 | 1 0 0 |
| 5908 Great Wheal Vor, t, c, Helston* 1/2 | 40 15 0 | 24 | 34 2 | 18 19 6 | 0 2 6 | June 1872 | 1 0 0 |
| 6400 Green Hurth, t, Durham* | 6 0 6 | 5 | 4 4 2 | 1 12 0 | 0 4 0 | Oct. 1874 | 1 0 0 |
| 20000 Grogwinion, t, Cardigan* | 2 0 0 | — | 2 1 2 | 0 2 0 | 1 0 0 | Dec. 1874 | 1 0 0 |
| 9880 Gunnislake (Clitters), t, c | 5 5 0 | 13 12 14 | 0 7 3 | 0 1 6 | June 1875 | 2 0 0 | — |
| 1024 Herodfoot, t, near Liskeard* | 8 10 0 | 31 1 | 3 3 1 | 62 5 0 | 0 15 0 | Oct. 1872 | 2 0 0 |
| 18000 Hindston Down, c, Calstock* (£1 sh.) | 2 5 0 | 1 1 1 | 4 3 0 | 5 0 | Dec. 1872 | 0 0 0 | — |
| 25000 Killaloe, s-i, Tipperary | 1 0 0 | — | 0 3 11 2 | 0 6 0 | Mar. 1873 | 1 0 0 | — |
| 400 Liebourn, t, Cardiganshire | 18 15 0 | — | 568 10 0 | 1 0 | Apr. 1875 | 1 0 0 | — |
| 5120 Lovell, t, Wendron | 0 10 0 | — | 34 1 2 3 | 0 17 6 | 0 1 6 | Jan. 1874 | 0 0 0 |
| 11000 Melindur Valley, t, Cardigan* | 3 0 0 | — | 0 7 2 | 0 3 0 | Jan. 1875 | 1 0 0 | — |
| 9000 Minera Mining Co., t, Wrexham* | 5 0 0 | — | 63 19 2 | 0 2 0 | May 1875 | 1 0 0 | — |
| 20000 Mining Co. of Ireland, c, t, * 1/2 | 7 0 0 | — | 0 8 0 | 0 3 0 | July 1872 | 1 0 0 | — |
| 12000 North Hendre, t, Wales* | 2 10 0 | — | 1 0 0 | 0 2 0 | Apr. 1875 | 1 0 0 | — |
| 2000 North Levant, t, St. Cleer* | 12 2 0 | 3 | 2 2 3 | 4 13 0 | 0 12 0 | Sept. 1873 | 1 0 0 |
| 27855 Old Treburret, s-i, ordinary shares | 1 0 0 | — | 0 9 0 | 0 9 0 | Feb. 1874 | 1 0 0 | — |
| 10246 Old Treburret, s-i, (10 per cent. pref.) | 0 10 0 | — | 0 1 4 2 | 0 6 0 | July 1874 | 1 0 0 | — |
| 5694 Pedn-an-drea, t, Redruth* 1/2 | 9 17 0 | 5 2 | 0 5 0 | 0 5 0 | Nov. 1871 | 1 0 0 | — |
| 5000 Penhalls, t, St. Agnes | 3 0 0 | 2 | 1 3 2 | 3 13 0 | 0 2 0 | July 1875 | 1 0 0 |
| 45793 Penstruthul, t, c, Gwenfawr* | 2 0 0 | — | 0 2 0 | 0 1 0 | Nov. 1874 | 1 0 0 | — |
| 6000 Phoenix, t, Llandinam* | 4 13 4 | 3 3 4 | 39 19 10 | 0 4 0 | Nov. 1872 | 1 0 0 | — |
| 1772 Polberro, t, St. Agnes | 15 0 0 | — | 1 12 6 | 0 5 0 | Mar. 1872 | 1 0 0 | — |
| 18000 Prince Patrick, s-i, Holywell | 1 0 0 | — | 0 9 0 | 0 9 0 | Jan. 1875 | 1 0 0 | — |
| 1120 Providence, t, Lelant* 1/2 | 2 16 7 | 3 | 1 2 | 104 12 6 | 0 10 0 | Sept. 1872 | 1 0 0 |
| 2000 Queens, s-i, Holywell* | 2 0 0 | — | 0 2 0 | 0 2 0 | Sept. 1874 | 1 0 0 | — |
| 12000 Roman Gravels, t, Salop* | 7 10 0 | — | 12 13 | 4 19 0 | 0 8 0 | May 1875 | 1 0 0 |
| 10000 Shelton, c, t, St. Austell | 1 0 0 | — | 0 1 0 | 0 1 0 | Feb. 1872 | 1 0 0 | — |
| 512 South Cadron, c, St. Cleer | 1 5 0 | 100 | 90 100 | 720 0 | 0 1 0 | June 1875 | 1 0 0 |
| 8000 South Cara, t, c, Illogan* | 2 6 8 | 2 1/2 | 13 1/2 2 | 0 10 0 | 0 2 6 | July 1872 | 1 0 0 |
| 612 South Conduffor, t, c, Camborne* | 6 5 6 | 5 2 1/2 | 4 3 5 | 1 7 6 | 0 5 0 | July 1875 | 1 0 0 |
| 6000 South Darren, t, Cardigan* | 3 6 8 | — | 1 1 6 | 0 1 0 | Nov. 1872 | 1 0 0 | — |
| 10000 So. Pr. Patrick, s-i, £8000 sh. issued) | 1 0 0 | — | 0 6 0 | 0 2 0 | Apr. 1875 | 1 0 0 | — |
| 8771 St. Just Amalgamated* | 3 10 0 | — | 0 9 0 | 0 4 0 | Nov. 1871 | 1 0 0 | — |
| 12000 Tankerville, t, Salop* | 6 0 0 | — | 10 1/2 11 | 3 13 0 | 0 5 0 | May 1875 | 1 0 0 |
| 6000 Tincroft, t, Pool, Illogan* | 9 0 0 | 20 | 18 19 | 48 3 6 | 0 5 0 | May 1875 | 1 0 0 |
| 15000 Tretol, t, t, Bedminst. | 2 0 0 | — | 0 1 0 | 0 1 0 | Mar. 1874 | 1 0 0 | — |
| 4000 Trumpet Consols, t, Houston* | 7 10 0 | — | 34 1/2 3 | 9 11 0 | 0 10 0 | Nov. 1872 | 1 0 0 |
| 15000 Van, t, Llandinam* | 4 5 0 | 25 1/2 | 23 25 | 15 4 6 | 0 13 0 | July 1875 | 1 0 0 |
| 3900 W. Chiverton, t, Perranzabuloe* | 12 10 0 | 18 | 14 1/2 15 2 | 52 10 0 | 0 5 0 | June 1874 | 1 0 0 |
| 512 West Polb, c, Redruth* | 65 10 0 | 47 | 48 45 | 7 5 0 | 1 5 0 | June 1873 | 1 0 0 |
| 2048 West Little France, t, Illogan* | 27 3 9 | 7 | 6 7 | 3 12 6 | 0 5 0 | Oct. 1872 | 1 0 0 |
| 512 Wheal Bassett, c, Illogan* | 5 2 6 | 5 1/2 | 5 5 2 | 638 10 0 | 1 10 0 | Aug. 1875 | 1 0 0 |
| 2048 Wheal Jane, t, Kea | 2 13 10 | 3 2 1/2 | 3 3 2 | 11 15 0 | 0 5 0 | July 1875 | 1 0 0 |
| 4295 Wheal Kitty, t, St. Agnes | 5 4 6 | 3 | 2 3 4 | 11 19 6 | 0 6 0 | Dec. 1874 | 1 0 0 |
| 896 Wheal Margaret, t, St. Just Lelant* | 15 17 8 | — | 1 1 6 | 82 2 3 | 0 10 0 | May 1872 | 1 0 0 |
| 89 Wheal Owles, t, St. Just Lelant* | 86 5 0 | 120 | 100 120 | 522 10 0 | 4 0 0 | Aug. 1872 | 1 0 0 |
| 6000 Wheal Prussia, t, Redruth | 2 0 0 | — | 0 1 0 | 0 1 0 | Dec. 1874 | 1 0 0 | — |
| 10000 Wheal Russell, c, Tavistock | 1 0 0 | — | 0 3 0 | 0 6 0 | Nov. 1874 | 1 0 0 | — |
| 10000 Wheal Whistler, t, c, Warleggan* | 1 0 0 | — | 0 1 6 | 0 6 0 | May 1872 | 1 0 0 | — |
| 26000 Wicklow, c, s-i, Wicklow | 2 10 0 | — | 62 9 0 | 0 2 6 | Mar. 1875 | 1 0 0 | — |
| 10000 Wye Valley, t, Montgomery* | 3 0 0 | 3 2 1/2 | 3 3 1/2 | 0 3 0 | 0 3 0 | Mar. 1873 | 1 0 0 |

FOREIGN DIVIDEND MINES.

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|---------------------------------------|-------|---|-----------|-------|-------|-----------|-------|
| 35500 Alamillos, t, Spain* 1/2 | 2 0 0 | — | 23 1/2 24 | 1 7 9 | 0 2 0 | Mar. 1875 | 1 0 0 |
| 30000 Almada and Trito Consols, * 1/2 | 1 0 0 | — | 2 1/2 2 | 0 5 3 | 0 1 0 | Mar. 1875 | 1 0 0 |